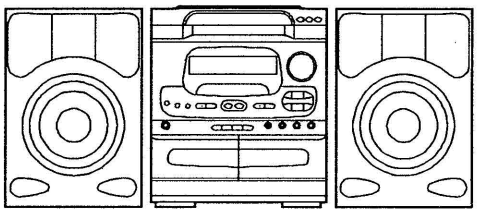
aiwa

aiwa SERVICE

NSX-520

SERVICE MANUAL



COMPACT DISC STEREO SYSTEM

- BASIC TAPE MECHANISM : 2ZM – 3 PR1
- BASIC CD MECHANISM : KSM – 2101ABM
- TYPE HE,HM,HR,LH

SYSTEM	CD – CASSEIVER	REMOTE CONTROLLER	SPEAKER
NSX – 520	CX – N520	RC – TN520	SX – FN520

S/M Code No. 09 – 945 – 053 – 60T

TABLE OF CONTENTS

SPECIFICATIONS 3
PROTECTION OF EYES FROM LASER BEAM DURING SERVICING 4
PRECAUTION TO REPLACE OPTICAL BLOCK (KSS – 210A) 4
ELECTRICAL MAIN PARTS LIST ..... 5~10
BLOCK DIAGRAM – 1 (MAIN/FRONT) ..... 11~12
BLOCK DIAGRAM – 2 (TUNER < HE,HM,HR >) 13
BLOCK DIAGRAM – 3 (TUNER < LH >) 14
BLOCK DIAGRAM – 4 (CD) ..... 15~16
BLOCK DIAGRAM – 5 (ECHO/DSP) 17
FL GRID ASSIGNMENT/ANODE CONNECTION 18
WIRING – 1 (MAIN < HE,HM,HR >) ..... 19~20
SCHEMATIC DIAGRAM – 1 (MAIN < HE,HM,HR >) ..... 21~22
WIRING – 2 (MAIN < LH >) ..... 23~24
SCHEMATIC DIAGRAM – 2 (MAIN < LH >) ..... 25~26
WIRING – 3 (FRONT) ..... 27~28
SCHEMATIC DIAGRAM – 3 (FRONT) ..... 29~30
WIRING – 4 (CD) ..... 31~32
SCHEMATIC DIAGRAM – 4 (CD) ..... 33~34
WIRING – 5 (ECHO/DSP) ..... 35~36
SCHEMATIC DIAGRAM – 5 (ECHO/DSP) 37
IC DESCRIPTION ..... 38~43
TRANSISTOR ILLUSTRATION 43
IC BLOCK DIAGRAM ..... 44~47
ELECTRICAL ADJUSTMENT ..... 48~54
PRACTICAL SERVICE FIGURE 51
SPRING APPLICATION POSITION 55
MECHANICAL EXPLODED VIEW 1/2 56
MECHANICAL PARTS LIST 1/2 57
MECHANICAL EXPLODED VIEW 2/2 58
MECHANICAL PARTS LIST 2/2 59
CD MECHANISM EXPLODED VIEW 1/1 60
CD MECHANISM PARTS LIST 1/1 60
TAPE MECHANISM EXPLODED VIEW 1/1 ..... 61~62
TAPE MECHANISM PARTS LIST 1/1 63
SPEAKER PARTS LIST 64
ACCESSORIES/PACKAGE LIST 65
REFERENCE NAME LIST 66

SPECIFICATIONS

TUNER/AMPLIFIER

<FM section>

Frequency range	87.5 MHz to 108 MHz
Usable sensitivity (IHF)	1.3 μV (75 ohms) 13.2 dBf
Alternate channel selectivity	50 dB (±400 kHz)
Signal-to-noise ratio	STEREO: 70 dB MONO: 76 dB
Harmonic distortion	0.3 % (MONO), 1 kHz 0.5 % (STEREO, L-R), 1 kHz
Frequency response	30 Hz to 15 kHz (+0.5 dB, – 3 dB)
Stereo separation	33 dB at 1 kHz
Antenna	75 ohms (unbalanced)

<AM (MW) section>

Frequency range	CX-N520 HE, HM, HR: AM 531 (530) kHz to 1602 (1710) kHz CX-N520 LH: AM 530 (531) kHz to 1710 (1602) kHz
Usable sensitivity	350 μV/m
Selectivity	22 dB (9 kHz)
Signal-to-noise ratio	53 dB (100 dB input)
Antenna	Loop antenna

<SW section> (except LH model)

Frequency range	SW 1: 3.2 MHz to 7.3 MHz SW 2: 9.5 MHz to 21.85 MHz
Antenna	Wire antenna

<Timer section>

Program timer	On-timer, free setting
Sleep timer	Setting in 10-minute increments, 240 minutes maximum

<Amplifier section>

Power output	50 W + 50 W (6 ohms, T.H.D. 10% 1 kHz)
Harmonic distortion	0.05 % (15 W, 1 kHz, 6 ohms)
Input terminal	VIDEO/AUX: 150 mV (adjustable) MIC: 1.8 mV/10 kΩ
Output terminal	SUPER WOOFER: 1.55 V

CASSETTE DECK/COMPACT DISC PLAYER

<Cassette deck section>

Track format	4 tracks, 2 channels
Frequency response	CrO_2 tape: 50 – 16000 Hz Normal tape: 50 – 15000 Hz
Signal-to-noise ratio	60 dB (DOLBY NR ON, CrO_2 tape peak level)
Tape speed	4.8 cm/sec. (1⅞ ips)
Recording system	AC bias
Erasure system	AC erase
Motor	DC servo motor × 1
Heads	Playback head × 1 (deck 1) Recording/playback/erasure head × 1 (deck 2)

<CD player section>

Disc	Compact disc
Scanning method	Non-contact optical scanner (semi-conductor laser)
Laser	Semiconductor laser (λ = 780 nm)
Rotation speed	Approx. 500 rpm – 200 rpm (CLV)
Error correction	Cross Interleave, Reed Solomon code
No. of channels	2 channels
D-A conversion	16-bit linear
Wow/flutter	Unmeasurable
Signal-to-noise ratio	90 dB (1 kHz, 0 dB)
Harmonic distortion	0.05% (1 kHz, 0 dB)

SPEAKER SYSTEM

(These values are for one speaker.)

Cabinet type	3 way, bass reflex with surround speaker (magnetism sealed type)
Speaker	130 mm (5⅛ in.) cone type woofer 80 mm (3¼ in.) cone type tweeter 50 mm (2 in.) ceramic type super tweeter 80 mm (3¼ in.) surround speaker
Impedance	6 ohms Surround speaker: 16 ohms
Music power	50 W
Output sound pressure level	88 dB/W/m
Dimensions (W × H × D)	206 × 302 × 260 mm (8⅛ × 12 × 10¼ in.)
Weight	3.8 kg (8.4 lbs.)

COMMON SECTION

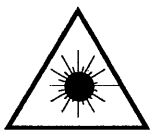
Power requirements	AC 120 V/220 V/240 V, switch-able 50/60 Hz
Power consumption (System total)	CX-N520 HE, HM, LH: 105 W CX-N520 HR: 140 W
Dimensions (W × H × D)	Main unit: 260 × 305 × 340 mm (10¼ × 12⅛ × 13½ in.) System: 672 × 305 × 340 mm (26½ × 12⅛ × 13½ in.)
Weight	Main unit: 7.5 kg (16.5 lbs.) (HE, HM, LH models) 7.9 kg (17.4 lbs.) (HR model) System: 15.1 kg (33.3 lbs.) (HE, HM, LH models) 15.5 kg (34.1 lbs.) (HR model)

- Design and specifications are subject to change without notice.
- Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
  "DOLBY" and the double-D symbol ⧈ are trademarks of Dolby Laboratories Licensing Corporation.
- The word "BBE" and the "BBE symbol" are trademarks of BBE Sound, Inc.
  Under license from BBE Sound, Inc.

PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

This set employs laser. Therefore, be sure to follow carefully the instructions below when servicing.

WARNING!!
WHEN SERVICING, DO NOT APPROACH THE LASER EXIT WITH THE EYE TOO CLOSELY. IN CASE IT IS NECESSARY TO CONFIRM LASER BEAM EMISSION. BE SURE TO OBSERVE FROM A DISTANCE OF MORE THAN 30cm FROM THE SURFACE OF THE OBJECTIVE LENS ON THE OPTICAL PICK-UP BLOCK.



- Caution: Invisible laser radiation when open and interlocks defeated avoid exposure to beam.
- Advarsel: Usynlig laserståling ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

VAROITUS!
Laiteen Käyttäminen muulla kuin tässä käyttöohjeessa mainitulla tavalla saattaa altistaa käyt-täjän turvallisuusluokan 1 ylittävälle näkymättömälle lasersäteilylle.

VARNING!
Om apparaten används på annat sätt än vad som specificeras i denna bruksanvising, kan användaren utsättas för osynling laserstrålning, som överskrider gränsen för laserklass 1.

CAUTION
Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

ATTENTION
L'utilisation de commandes, réglages ou procédures autres que ceux spécifiés peut entraîner une dangereuse exposition aux radiations.

ADVARSEL!
Usynlig laserståling ved åbning, når sikkerhedsafbrydereer ude af funktion. Undgå udsættelse for stråling.

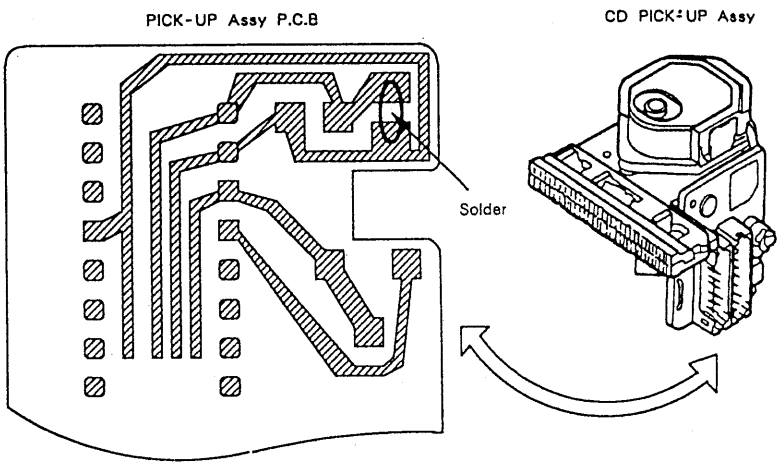
This Compact Disc player is classified as a CLASS 1 LASER product.
The CLASS 1 LASER PRODUCT label is located on the rear exterior.

CLASS 1	LASER PRODUCT
KLASSE 1	LASER PRODUKT
LUOKAN 1	LASER LAITE
KLASS 1	LASER APPARAT

Precaution to replace Optical block (KSS – 210A)

Body or clothes electrostatic potential could ruin laser diode in the optical block. Be sure to ground body and workbench, and use care the clothes do not touch the diode.

1) After the connection, remove the solder shown in the right figure.



ELECTRICAL MAIN PARTS LIST

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	ｶﾝﾘ NO.	DESCRIPTION
IC			
	87-017-745-010		IC, CXA1782BQ
	87-020-454-010		IC, DM6851
	87-017-486-080		IC, BA6397FP
	87-017-586-010		IC, CXD 2518Q
	87-017-194-010		IC, PLT104
	83-NF5-635-010		IC, LC866432V-5492〈HR〉
	83-NF5-646-010		IC, LC866432V-5506〈HE, HM, LH〉
	87-017-585-080		IC, NJM4580E
	87-017-373-010		IC, NJH32H380A
	87-001-582-010		IC, STK4152-2
	87-017-738-010		IC, NJM2068LD
	87-001-982-010		IC, TA7291S
	87-017-674-010		IC, XR1090
	87-002-727-010		IC, NJM4558L
	87-017-375-080		IC, TC4094BF
	87-001-874-010		IC, HA12134A
	87-017-673-010		IC, BA3837
	87-017-449-010		IC, XR-1071CP
	87-001-607-080		IC, NJM4558M
	87-017-374-010		IC, TC4094BP
	87-002-247-010		IC, BU4052B
	87-017-448-010		IC, GD4052B
	87-002-272-080		IC, TC4052 BF
	87-001-376-010		IC, LC7218
	87-017-714-010		IC, LA1836
	87-002-872-080		IC, MC14053 BF
	87-017-309-010		IC, M65830P
TRANSISTOR			
	89-110-154-080		TR, 2SA1015Y
	87-026-463-080		TR, 2SA933S(RS)
	89-113-187-080		TR, 2SA1318TU
	87-026-233-080		C-TR, DTA114TK
	87-026-211-080		C-TR, DTA144EK T147
	89-213-702-010		TR, 2SB1370E
	87-026-609-080		TR, KTA1266GR
	87-026-610-080		TR, KTC3198GR
	89-327-125-080		C-TR, 2SC2712GR
	89-332-665-080		TR, 2SC3266GR
	89-111-625-080		C-TR, 2SA1162GR
	89-333-266-080		C-TR, 2SC3326B
	87-026-232-080		C-TR, DTA144WK
	87-026-210-080		C-TR, DTC144EK T147
	89-213-293-080		TR, 2SB1329R〈HE, HM, LH〉
	89-318-154-080		TR, 2SC1815Y
	89-333-317-080		TR, 2SC3331T
	87-026-213-080		C-TR, DTC114YK
	87-026-226-080		C-TR, DTA143EK
	89-503-655-680		FET, 2SK365GR, BL
	87-026-224-080		C-TR, DTC143XK
	89-109-521-080		TR, 2SA952K
	89-112-965-080		TR, 2SA1296GR
	89-406-555-080		TR, 2SD655E
	89-502-464-080		FET, 2SK246Y
	87-026-462-080		TR, 2SC1740S (RS)〈HE, HM, HR〉
	87-026-214-080		TR, DTA114YS
	87-026-215-080		TR, DTC114YS〈HE, HM, HR〉
	89-327-143-080		C-TR, 2SC2714 (O)
	89-503-025-080		C-FET, 2SK302 GR
	89-320-011-080		TR, 2SC2001K〈HE, HM, HR〉
	89-505-434-580		C-FET, 2SK543(4/5)
	89-318-155-080		TR, 2SC1815GR〈HE, HM, HR〉
DIODE			
	87-002-564-080		DIODE, 1SS133 RA
	87-017-447-010		DIODE, GBU4DL
	87-002-608-080		DIODE, DSF10TC
	87-017-011-080		DIODE, LT IN4003L
	87-020-691-080		DIODE, 1SS132 T-72
	87-020-027-080		C-DIODE, 1SS184
	87-020-125-080		C-DIODE, 1SS181
	87-020-465-080		DIODE, ISS133
	87-017-174-080		ZENER, HZS11A3L
	87-017-147-080		ZENER, HZS33-2
	87-001-731-080		ZENER, HZS6C2L
	87-017-091-080		ZENER, HZS5C1
	87-020-331-080		C-DIODE, DAN202K
	87-001-290-080		ZENER, HZS6B1L
	87-020-330-080		C-DIODE, DAP202K
	87-001-559-080		DIODE, ISS131(T-72)
	87-017-083-080		ZENER, HZS4C2
	87-017-092-080		ZENER, HZS5C2〈HE, HM, HR〉
MAIN C.B			
C101	87-016-055-090		CAP, E 3300-42 HI-R
C102	87-016-055-090		CAP, E 3300-42 HI-R
C103	87-010-390-090		CAP, E 3300-25 SME
C104	87-010-235-080		CAP, E 470-16 SME〈HE, HM, LH〉
C104	82-188-648-080		CAP, E 470-16(105)〈HR〉
C105	87-010-381-080		CAP, E 330-16 SME
C106	87-010-430-080		CAP, E 100-63
C107	87-010-392-080		CAP, E 33-35 SME
C108	87-010-406-080		CAP, E 22-50 SME〈HE, HM, LH〉
C108	87-010-392-080		CAP, E 33-35 SME〈HR〉
C109	87-010-263-080		CAP, E 100-10
C112	87-010-237-080		CAP, E 1000-16〈HE, HM, LH〉
C112	87-010-271-080		CAP, E 1000-16(105)〈HR〉
C113	87-010-403-080		CAP, E 3.3-50 SME
C115	87-016-247-080		C-CAP, 0.1-50 F
C116	87-012-140-080		C-CAP, S 470P-50 CH
C118	87-016-247-080		C-CAP, 0.1-50 F
C119	87-018-205-080		CAP, TC-U 0.022-25 F
C120	87-018-205-080		CAP, TC-U 0.022-25 F
C121	87-018-211-080		CAP, TC-U 0.01-50 F〈HE, HM, HR〉
C121	87-018-209-080		CAP, TC-U 0.1-50 F〈LH〉
C122	87-018-134-080		CAP, TC-U 0.001-16 Y〈HE, HM, HR〉
C123	87-018-134-080		CAP, TC-U 0.001-16 Y〈HE, HM, HR〉
C124	87-018-134-080		CAP, TC-U 0.001-16 Y〈HE, HM, HR〉
C152	87-010-374-080		CAP, E 47-10
C213	87-010-404-080		CAP, E 4.7-50 SME
C214	87-010-404-080		CAP, E 4.7-50 SME
C215	87-010-182-080		C-CAP, S 2200P-50 B
C216	87-010-182-080		C-CAP, S 2200P-50 B
C217	87-010-404-080		CAP, E 4.7-50 SME
C218	87-010-404-080		CAP, E 4.7-50 SME
C219	87-010-185-080		C-CAP, S 3900P-50 B
C220	87-010-185-080		C-CAP, S 3900P-50 B
C221	87-010-400-080		CAP, E 0.47-50 SME
C222	87-010-400-080		CAP, E 0.47-50 SME
C223	87-010-260-080		CAP, E 47-25 SME
C224	87-010-260-080		CAP, E 47-25 SME
C225	87-010-260-080		CAP, E 47-25 SME
C226	87-010-260-080		CAP, E 47-25 SME
C227	87-012-368-080		C-CAP, S 0.1-50F
C228	87-012-368-080		C-CAP, S 0.1-50F
C229	87-012-361-080		C-CAP, S 0.056-25 Y
C230	87-012-361-080		C-CAP, S 0.056-25 Y
C236	87-010-408-080		CAP, E 47-50 SME
C243	87-010-154-080		C-CAP, S 10P-50 CH
C244	87-010-154-080		C-CAP, S 10P-50 CH
C245	87-010-194-080		C-CAP, S 0.047-25 F
C250	87-010-196-080		C-CAP, S 0.1-25 F
C303	87-012-155-080		C-CAP, S 180P-50 CH
C304	87-012-155-080		C-CAP, S 180P-50 CH

REF. NO	PART NO.	カンリ NO.	DESCRIPTION
C305	87-010-189-080		C-CAP, S 8200P-50 B
C306	87-010-189-080		C-CAP, S 8200P-50 B
C309	87-010-197-080		C-CAP, S 0.01-25 B
C310	87-010-197-080		C-CAP, S 0.01-25 B
C311	87-010-213-080		C-CAP, S 0.015-25 B
C312	87-010-213-080		C-CAP, S 0.015-25 B
C313	87-010-197-080		C-CAP, S 0.1-25 B
C351	87-012-154-080		C-CAP, S 150P-50 CH
C352	87-012-154-080		C-CAP, S 150P-50 CH
C353	87-012-145-080		C-CAP, S 270P-50 CH
C354	87-012-145-080		C-CAP, S 270P-50 CH
C355	87-012-154-080		C-CAP, S 150P-50 CH
C356	87-012-154-080		C-CAP, S 150P-50 CH
C357	87-010-189-080		C-CAP, S 8200P-50 B
C358	87-010-189-080		C-CAP, S 8200P-50 B
C361	87-010-197-080		C-CAP, S 0.01-25 B
C362	87-010-197-080		C-CAP, S 0.01-25 B
C363	87-010-197-080		C-CAP, S 0.01-25 B
C364	87-010-197-080		C-CAP, S 0.01-25 B
C401	87-010-402-080		CAP, E 2.2-50 SME
C402	87-010-402-080		CAP, E 2.2-50 SME
C405	87-010-197-080		C-CAP, S 0.01-25 B
C406	87-010-197-080		C-CAP, S 0.01-25 B
C409	87-010-181-080		C-CAP, S 1800P-50 B
C410	87-010-181-080		C-CAP, S 1800P-50 B
C411	87-010-188-080		C-CAP, S 6800P-50 B
C412	87-010-188-080		C-CAP, S 6800P-50 B
C415	87-012-154-080		C-CAP, S 150P-50 CH
C416	87-012-154-080		C-CAP, S 150P-50 CH
C451	87-012-156-080		C-CAP, S 220P-50 CH
C452	87-012-156-080		C-CAP, S 220P-50 CH
C453	87-010-178-080		C-CAP, S 1000P-50 B
C456	87-010-260-080		CAP, E 47-25 SME
C457	87-010-197-080		C-CAP, S 0.01-25 B
C458	87-010-183-080		C-CAP, S 2700P-50 B
C459	87-010-183-080		C-CAP, S 2700P-50 B
C460	87-010-183-080		C-CAP, S 2700P-50 B
C470	87-010-196-080		C-CAP, S 0.1-25 F
C501	87-010-196-080		C-CAP, S 0.1-25 F
C502	87-010-196-080		C-CAP, S 0.1-25 F
C503	87-012-155-080		C-CAP, S 180P-50 CH
C504	87-012-155-080		C-CAP, S 180P-50 CH
C507	87-010-178-080		C-CAP, S 1000P-50 B
C508	87-010-178-080		C-CAP, S 1000P-50 B
C509	87-010-371-080		CAP, E 470-6.3
C515	87-010-545-080		CAP, E 0.22-50 SME
C516	87-010-545-080		CAP, E 0.22-50 SME
C517	87-012-142-080		C-CAP, S 0.33-16 F
C518	87-012-142-080		C-CAP, S 0.33-16 F
C519	87-010-196-080		C-CAP, S 0.1-25 F
C521	87-010-197-080		C-CAP, S 0.01-25 B
C522	87-010-318-080		C-CAP, S 47P-50 CH
C523	87-010-197-080		C-CAP, S 0.01-25 B
C524	87-010-402-080		CAP, E 2.2-50 SME
C530	87-010-194-080		C-CAP, S 0.047-25 F
C531	87-010-545-080		CAP, E 0.22-50 SME
C532	87-010-382-080		CAP, E 22-25 SME
C533	87-010-404-080		CAP, E 4.7-50 SME
C534	87-010-404-080		CAP, E 4.7-50 SME
C535	87-010-404-080		CAP, E 4.7-50 SME
C536	87-010-404-080		CAP, E 4.7-50 SME
C537	87-010-196-080		C-CAP, S 0.1-25 F
C538	87-010-196-080		C-CAP, S 0.1-25 F
C539	87-010-405-080		CAP, E 10-50 SME
C540	87-010-260-080		CAP, E 47-25 SME
C541	87-010-196-080		C-CAP, S 0.1-25 F
C543	87-010-546-080		CAP, E 0.33-50 SME
C544	87-010-546-080		CAP, E 0.33-50 SME
C545	87-010-400-080		CAP, E 0.47-50 SME
C546	87-010-400-080		CAP, E 0.47-50 SME
C547	87-010-220-080		C-CAP, S 0.018-25 B〈HE, HM, HR〉
C547	87-012-365-080		C-CAP, S 0.027-25 BK〈LH〉
C548	87-010-220-080		C-CAP, S 0.018-25 B〈HE, HM, HR〉
C548	87-012-365-080		C-CAP, S 0.027-25 BK〈LH〉
C549	87-012-142-080		C-CAP, S 0.33-16 F
C550	87-016-081-080		C-CAP, S 0.1-16 RK
C551	87-016-081-080		C-CAP, S 0.1-16 RK
C601	87-010-401-080		CAP, E 1-50 SME
C602	87-010-405-080		CAP, E 10-50 SME
C603	87-010-101-080		CAP, E 220-16 SME
C605	87-010-178-080		C-CAP, S 1000P-50 B
C606	87-015-627-080		C-CAP, 1000P-50 B K
C607	87-010-404-080		CAP, E 4.7-50 SME
C608	87-010-404-080		CAP, E 4.7-50 SME
C609	87-010-404-080		CAP, E 4.7-50 SME
C610	87-010-404-080		CAP, E 4.7-50 SME
C611	87-010-177-080		C-CAP, S 820P-50 SL
C612	87-010-177-080		C-CAP, S 820P-50 SL
C613	87-010-404-080		CAP, E 4.7-50 SME
C614	87-010-404-080		CAP, E 4.7-50 SME
C615	87-010-400-080		CAP, E 0.47-50 SME
C616	87-010-400-080		CAP, E 0.47-50 SME
C617	87-010-197-080		C-CAP, S 0.01-25 B
C618	87-010-197-080		C-CAP, S 0.01-25 B
C619	87-010-184-080		C-CAP, S 3300P-50 B
C620	87-010-184-080		C-CAP, S 3300P-50 B
C621	87-012-155-080		C-CAP, S 180P-50 CH
C622	87-012-155-080		C-CAP, S 180P-50 CH
C623	87-010-405-080		CAP, E 10-50 SME
C624	87-010-405-080		CAP, E 10-50 SME
C630	87-010-405-080		CAP, E 10-50 SME
C631	87-010-401-080		CAP, E 1-50 SME
C640	87-010-196-080		C-CAP, S 0.1-25 F
C641	87-010-196-080		C-CAP, S 0.1-25 F
C645	87-012-142-080		C-CAP, S 0.33-16 F
C646	87-012-142-080		C-CAP, S 0.33-16 F
C647	87-012-142-080		C-CAP, S 0.33-16 F
C648	87-012-142-080		C-CAP, S 0.33-16 F
C701	87-010-381-080		CAP, E 330-16 SME
C702	87-010-404-080		CAP, E 4.7-50 SME
C703	87-010-197-080		C-CAP, S 0.01-25 B
C704	87-010-197-080		C-CAP, S 0.01-25 B
C711	87-010-263-080		CAP, E 100-10
C712	87-010-196-080		C-CAP, S 0.1-25 F
C722	87-010-312-080		C-CAP, S 15P-50 CH
C723	87-010-178-080		C-CAP, S 1000P-50 B
C724	87-010-178-080		C-CAP, S 1000P-50 B
C725	87-015-627-080		C-CAP, 1000P-50 B K
C726	87-018-131-080		CAP, TC-U 1000P-50 B
C727	87-010-194-080		C-CAP, S 0.047-25 F〈LH〉
C727	87-010-196-080		C-CAP, S 0.1-25 F〈HE, HM, HR〉
C728	87-010-248-080		CAP, E 220-10 SME
C732	87-010-197-080		C-CAP, S 0.01-25 B
C771	87-010-405-080		CAP, E 10-50 SME
C772	87-010-194-080		C-CAP, S 0.047-25 F
C773	87-010-196-080		C-CAP, S 0.1-25 F
C774	87-010-263-080		CAP, E 100-10
C775	87-010-405-080		CAP, E 10-50 SME
C776	87-010-197-080		C-CAP, S 0.01-25 B〈LH〉
C777	87-010-400-080		CAP, E 0.47-50 SME
C778	87-010-401-080		CAP, E 1-50 SME
C779	87-010-401-080		CAP, E 1-50 SME
C780	87-010-197-080		C-CAP, S 0.01-25 B
C781	87-010-405-080		CAP, E 10-50 SME
C782	87-010-405-080		CAP, E 10-50 SME
C787	87-010-184-080		C-CAP, S 3300P-50 B
C788	87-010-184-080		C-CAP, S 3300P-50 B
C789	87-010-179-080		C-CAP, S 1200P-50 B
C790	87-010-179-080		C-CAP, S 1200P-50 B
C791	87-010-401-080		CAP, E 1-50 SME

REF. NO	PART NO.	カンリ NO.	DESCRIPTION
C792	87-010-180-080		C-CAP, S 1500P-50 B
C793	87-010-189-080		C-CAP, S 8200P-50 B
C794	87-010-408-080		CAP, E 47-50 SME
C795	87-010-194-080		C-CAP, S 0.047-25 F
C796	87-010-403-080		CAP, E 3.3-50 SME
C797	87-010-405-080		CAP, E 10-50 SME〈LH〉
C798	87-010-196-080		C-CAP, S 0.1-25 F〈LH〉
C802	87-010-154-080		C-CAP, S 10P-50 CH
C804	87-010-151-080		C-CAP, S 7P-50 CH
C805	87-010-150-080		C-CAP, S 6P-50 CH
C806	87-010-145-080		C-CAP, S 1P-50 CH
C807	87-010-154-080		C-CAP, S 10P-50 CH
C808	87-010-322-080		C-CAP, S 100P-50 CH
C809	87-010-197-080		C-CAP, S 0.01-25 B
C810	87-010-197-080		C-CAP, S 0.01-25 B
C811	87-010-149-080		C-CAP, S 5P-50 CH
C812	87-010-313-080		C-CAP, S 18P-50 CH
C813	87-010-197-080		C-CAP, S 0.01-25 B
C814	87-010-197-080		C-CAP, S 0.01-25 B
C816	87-010-197-080		C-CAP, S 0.01-25 B〈LH〉
C817	87-010-197-080		C-CAP, S 0.01-25 B
C818	87-010-197-080		C-CAP, S 0.01-25 B
C819	87-010-197-080		C-CAP, S 0.01-25 B
C820	87-010-260-080		CAP, E 47-25 SME
C821	87-010-197-080		C-CAP, S 0.01-25 B
C822	87-015-819-080		C-CAP 0.01
C823	87-010-197-080		C-CAP, S 0.01-25 B
C830	87-010-197-080		C-CAP, S 0.01-25 B
C831	87-010-154-080		C-CAP, S 10P-50 CH
C835	87-010-154-080		C-CAP, S 10P-50 CH
C836	87-010-312-080		C-CAP, S 15P-50 CH
C837	87-010-312-080		C-CAP, S 15P-50 CH
C840	87-010-197-080		C-CAP, S 0.01-25 B
C843	87-010-146-080		C-CAP, S 2P-50 CH
C944	87-010-311-080		C-CAP, S 12P-50 CH〈LH〉
C946	87-010-401-080		CAP, E 1-50 SME
C947	87-010-197-080		C-CAP, S 0.01-25 B〈LH〉
C948	87-010-401-080		CAP, E 1-50 SME〈LH〉
C950	87-010-322-080		C-CAP, S 100P-50 CH〈LH〉
C951	87-010-197-080		C-CAP, S 0.01-25 B〈HE, HM, HR〉
C952	87-010-197-080		C-CAP, S 0.01-25 B〈HE, HM, HR〉
C953	87-010-197-080		C-CAP, S 0.01-25 B〈HE, HM, HR〉
C954	87-010-263-080		CAP, E 100-10 SME 5X11〈HE, HM, HR〉
C955	87-010-315-080		C-CAP, S 27P-50 CH〈HE, HM, HR〉
C956	87-010-197-080		C-CAP, S 0.01-25 B〈HE, HM, HR〉
C957	87-010-197-080		C-CAP, S 0.01-25 B〈HE, HM, HR〉
C958	87-010-197-080		C-CAP, S 0.01-25 B〈HE, HM, HR〉
C959	87-010-544-080		CAP, E 0.1-50〈HE, HM, HR〉
C961	87-014-051-080		CAP, PP 560P-100 J〈HE, HM, HR〉
C962	87-014-073-080		CAP, PP 4700P-100 J〈HE, HM, HR〉
C963	87-010-312-080		C-CAP, S 15P-50 CH〈HE, HM, HR〉
C964	87-012-150-080		C-CAP, S 20P-50 CH〈HE, HM, HR〉
C965	87-010-186-080		C-CAP, S 4700P-50 B〈HE, HM, HR〉
C966	87-010-263-080		CAP, E 100-10〈HE, HM, HR〉
C970	87-010-197-080		C-CAP, S 0.01-25 B〈HE, HM, HR〉
C971	87-010-197-080		C-CAP, S 0.01-25 B〈HE, HM, HR〉
C972	87-010-197-080		C-CAP, S 0.01-25 B〈HE, HM, HR〉
C973	87-010-150-080		C-CAP, S 6P-50 CH〈HE, HM, HR〉
C976	87-010-400-080		CAP, E 0.47-50 SME〈HE, HM, HR〉
C977	87-010-405-080		CAP, E 10-50 SME〈HE, HM, HR〉
C980	87-010-197-080		C-CAP, S 0.01-25 B〈HE, HM, HR〉
C981	87-018-134-080		CAP, TC-U 0.01-16 Y
C983	87-010-544-080		CAP, E 0.1-50〈LH〉
C984	87-010-196-080		C-CAP, S 0.1-25 F〈LH〉
C985	87-010-196-080		C-CAP, S 0.1-25 F〈LH〉
C987	87-010-197-080		C-CAP, S 0.01-25 B〈LH〉
C988	87-010-196-080		C-CAP, S 0.1-25 F〈LH〉
C988	87-018-209-080		CAP, TC-U 0.1-50 F〈HE, HM, HR〉
C989	87-018-134-080		CAP, TC-U 0.01-16 Y〈HE, HM, HR〉
C990	87-010-197-080		C-CAP, S 0.01-25 B
C991	87-010-196-080		C-CAP, S 0.1-25 F〈HE, HM, HR〉
C992	87-010-196-080		C-CAP, S 0.1-25 F〈HE, HM, HR〉
C993	87-018-209-080		CAP, TC-U 0.1-50 F〈HE, HM, HR〉
C994	87-018-209-080		CAP, TC-U 0.1-50 F〈HE, HM, HR〉
C995	87-018-134-080		CAP, TC-U 0.01-16 Y〈HE, HM, HR〉
C996	87-018-209-080		CAP, TC-U 0.1-50 F〈HE, HM, HR〉
C997	87-018-209-080		CAP, TC-U 0.1-50 F〈HE, HM, HR〉
CF801	87-008-261-010		FLTR, SFE10.7MA5-A
CF802	87-008-261-010		FLTR, SFE10.7MA5-A
D801	87-002-730-080		VARI-CAP, SVC203SPA
D802	87-002-730-080		VARI-CAP, SVC203SPA
D803	87-002-730-080		VARI-CAP, SVC203SPA
D958	87-017-567-080		VARI-CAP, SVC342 M〈HE, HM, HR〉
J250	87-049-855-010		JACK, 6.3 W/S
J253	87-099-475-010		JACK, PIN 3P BLK W/E
J254	87-033-226-010		TERMINAL, SP 4P (JT)
J652	80-MT3-616-010		JACK, PIN 2P
J801	82-NF5-621-010		ANT TERM JBT 0222
L401	87-003-131-080		COIL, 10MH J
L402	87-003-131-080		COIL, 10MH J
L403	87-005-525-080		COIL, 22MH-J
L404	87-005-525-080		COIL, 22MH-J
L451	82-NV3-610-010		COIL, OSC BIAS 85K
L701	81-631-643-010		COIL, 1 POLE MPX
L702	81-631-643-010		COIL, 1 POLE MPX
L741	87-006-253-010		COIL, FM DET N
L742	81-631-612-010		CFMT 450A〈HE, HM, HR〉
L742	81-NT1-659-010		FLTR, CFAZ-450 2NT〈LH〉
L770	87-003-102-080		COIL, 10UH〈LH〉
L771	87-003-098-080		COIL, 2.2UH
L801	87-006-249-010		COIL, ANT FM3/4TS, L4
L802	87-006-254-010		COIL, ANT FM2-3/4TS, S
L803	87-006-244-010		COIL, RF FM 3-1/2T, L4
L804	87-006-250-010		COIL, RF FM 3-1/2TS, L4
L805	87-003-098-080		COIL, 2.2UH
L806	87-008-427-010		COIL, FMIFT (4T)
L807	87-006-205-010		COIL, OSC FM (7K)
L832	87-003-098-080		COIL, 2.2UH
L951	87-006-236-010		COIL, ANT MW(SG)〈HE, HM, HR〉
L952	87-006-255-010		COIL, ANT SW1(SG7)〈HE, HM, HR〉
L953	87-006-256-010		COIL, ANT SW2(SG7)〈HE, HM, HR〉
L954	87-005-372-080		COIL, S 1 MH TAPG〈HE, HM, HR〉
L955	87-005-372-080		COIL, S 1 MH TAPG〈HE, HM, HR〉
L956	87-007-326-010		COIL, OSC MW(SG)〈HE, HM, HR〉
L957	87-007-327-010		COIL, OSC SW1(SG)〈HE, HM, HR〉
L958	87-007-332-010		COIL, OSC SW2(SG7)〈HE, HM, HR〉
L981	81-MX4-620-010		AM PACK 3, S〈LH〉
R105	87-022-050-080		RES, METAL 1W-0.22J
R106	87-022-050-080		RES, METAL 1W-0.22J
R203	87-022-391-080		RES, M/F 0.47-1W
R204	87-022-391-080		RES, M/F 0.47-1W
R243	87-022-391-080		RES, M/F 0.47-1W
R244	87-022-391-080		RES, M/F 0.47-1W
RY101	87-045-361-010		RELAY, DH12D2-OS(M)-2
RY102	87-045-335-010		RELAY, G5Z-2A 12VDC
SFR301	87-024-349-080		SFR, 1K DIA6 H
SFR302	87-024-349-080		SFR, 1K DIA6 H
SFR351	87-024-349-080		SFR, 1K DIA6 H
SFR352	87-024-349-080		SFR, 1K DIA6 H
SFR401	87-024-349-080		SFR, 1K DIA6 H
SFR402	87-024-349-080		SFR, 1K DIA6 H
SFR451	87-024-356-080		SFR, 47K DIA6 H
SFR452	87-024-356-080		SFR, 47K DIA6 H
SFR722	87-024-171-080		SFR, 4.7K DIA6 V
SFR771	87-024-173-080		SFR, 22K DIA6 V
TC701	87-011-221-080		TRIMMER 30P VCT51
TC801	87-011-219-080		CAP TRIMMER 10P VCT
TC802	87-011-219-080		CAP TRIMMER 10P VCT
TC951	87-011-220-080		CAP TRIMMER 20P VCT〈HE, HM, HR〉
TC952	87-011-221-080		TRIMMER 30P VCT51〈HE, HM, HR〉

REF. NO	PART NO.	カンリ NO.	DESCRIPTION
TC953	87-011-221-080		TRIMMER 30P VCT51〈HE, HM, HR〉
VR651	83-NF5-639-010		VR, 50KBX2 RK14K12A0
W101	81-MX4-647-010		F-CABEL, 7P-2.5
X703	84-508-618-010		VIB, CER CSB 456 F/5
X704	87-030-354-010		VIB, CF BFC450C〈HE, HM, HR〉
X721	87-030-163-010		VIB, XTAL 7.2MHZ(NDK)
FRONT C.B			
C201	87-010-404-040		CAP, E 4.7-50 SME
C202	87-010-404-040		CAP, E 4.7-50 SME
C203	87-010-408-040		CAP, E 47-50 SME
C204	87-010-401-040		CAP, E 1-50 SME
C205	87-010-263-040		CAP, E 100-10
C206	87-010-248-040		CAP, E 220-10〈LH〉
C207	87-010-401-040		CAP, E 1-50 SME
C208	87-010-805-080		C-CAP, S 1-16 F
C210	87-010-146-080		C-CAP, S 2P-50 CH
C212	87-010-405-040		CAP, E 10-50 SME
C213	87-010-196-080		C-CAP, S 0.1-25 F
C214	87-010-196-080		C-CAP, S 0.1-25 F
C215	87-010-196-080		C-CAP, S 0.1-25 F
C242	87-012-140-080		C-CAP, S 470P-50 CH
C352	87-010-197-080		C-CAP, S 0.01-25 B
C381	87-010-196-080		C-CAP, S 0.1-25 F
C382	87-010-196-080		C-CAP, S 0.1-25 F
C383	87-010-196-080		C-CAP, S 0.1-25 F
C389	87-010-150-080		C-CAP, S 6P-50 CH
C401	87-010-196-080		C-CAP, S 0.1-25 F
C501	87-010-384-040		CAP, E 100-25 SME
C604	87-010-183-080		C-CAP, S 2700P-50 B
C606	87-010-401-040		CAP, E 1-50 SME
C607	87-012-140-080		C-CAP, S 470P-50 CH
C608	87-010-405-040		CAP, E 10-50 SME
C609	87-010-196-080		C-CAP, S 0.1-25 F
C610	87-012-145-080		C-CAP, S 270P-50CH
C613	87-010-805-080		C-CAP, S 1-16 F
C624	87-010-183-080		C-CAP, S 2700P-50 B
C626	87-010-401-040		CAP, E 1-50 SME
C627	87-012-140-080		C-CAP, S 470P-50 CH
C630	87-010-405-040		CAP, E 10-50 SME
C640	87-010-405-040		CAP, E 10-50 SME
C645	87-010-263-040		CAP, E 100-10
C646	87-010-196-080		C-CAP, S 0.1-25 F
C650	87-010-260-040		CAP, E 47-25 SME
C701	87-010-175-080		C-CAP, S 560P-50 SL
C702	87-010-175-080		C-CAP, S 560P-50 SL
C703	87-010-154-080		C-CAP, S 10P-50 CH
C704	87-010-154-080		C-CAP, S 10P-50 CH
C705	87-012-154-080		C-CAP, S 150P-50 CH
C706	87-012-154-080		C-CAP, S 150P-50 CH
C707	87-010-220-080		C-CAP, S 0.018-25 B
C708	87-010-220-080		C-CAP, S 0.018-25 B
C709	87-010-186-080		C-CAP, S 4700P-50 B
C710	87-010-186-080		C-CAP, S 4700P-50 B
C711	87-012-140-080		C-CAP, S 470P-50 CH
C712	87-012-140-080		C-CAP, S 470P-50 CH
C713	87-010-213-080		C-CAP, S 0.015-25 B
C714	87-010-213-080		C-CAP, S 0.015-25 B
C715	87-010-318-080		C-CAP, S 47P-50 CH
C716	87-010-318-080		C-CAP, S 47P-50 CH
C717	87-010-178-080		C-CAP, S 1000P-50 B
C718	87-010-178-080		C-CAP, S 1000P-50 B
C719	87-010-176-080		C-CAP, S 680P-50 SL
C720	87-010-176-080		C-CAP, S 680P-50 SL
C721	87-010-402-040		CAP, E 2.2-50 SME
C722	87-010-402-040		CAP, E 2.2-50 SME
C729	87-010-263-040		CAP, E 100-10
C730	87-010-384-040		CAP, E 100-25 SME

REF. NO	PART NO.	カンリ NO.	DESCRIPTION
FL101	83-NF5-630-010		FL, BJ238GK
FT101	83-NF5-632-010		CABLE FFC, 6P-1.25
FT102	82-NF5-651-010		CABLE FFC, 14P-1.25
J601	82-NF7-630-010		JACK, 3.5 MO
J621	82-NF7-630-010		JACK, 3.5 MO
L349	87-003-149-080		COIL, 47UH
LED401	87-017-784-080		LED, SEL1550CM TP8
LED402	87-017-784-080		LED, SEL1550CM TP8
LED403	87-017-784-080		LED, SEL1550CM TP8
LED404	87-017-784-080		LED, SEL1550CM TP8
LED405	87-017-784-080		LED, SEL1550CM TP8
LED406	87-017-784-080		LED, SEL1550CM TP8
LED407	87-017-731-080		LED, SEL1510CM2
LED408	87-017-731-080		LED, SEL1510CM2
LED409	87-017-785-080		LED, SEL4214S
LED410	87-017-731-080		LED, SEL1510CM2
LED411	87-017-731-080		LED, SEL1510CM2
LED412	87-017-731-080		LED, SEL1510CM2
LED413	87-017-731-080		LED, SEL1510CM2
LED414	87-017-731-080		LED, SEL1510CM2
LED420	87-017-785-080		LED, SEL4214S
LED421	87-017-731-080		LED, SEL1510CM2
LED422	87-017-785-080		LED, SEL4214S
LED423	87-017-785-080		LED, SEL4214S
S301	87-036-215-080		SW, TACT EVQ21404M
S302	87-036-215-080		SW, TACT EVQ21404M
S303	87-036-215-080		SW, TACT EVQ21404M
S304	87-036-215-080		SW, TACT EVQ21404M
S305	87-036-215-080		SW, TACT EVQ21404M
S306	87-036-215-080		SW, TACT EVQ21404M
S307	87-036-215-080		SW, TACT EVQ21404M
S308	87-036-215-080		SW, TACT EVQ21404M
S321	87-036-215-080		SW, TACT EVQ21404M
S322	87-036-215-080		SW, TACT EVQ21404M
S323	87-036-215-080		SW, TACT EVQ21404M
S324	87-036-215-080		SW, TACT EVQ21404M
S325	87-036-215-080		SW, TACT EVQ21404M
S326	87-036-215-080		SW, TACT EVQ21404M
S327	87-036-215-080		SW, TACT EVQ21404M
S328	87-036-215-080		SW, TACT EVQ21404M
S329	87-036-215-080		SW, TACT EVQ21404M
S330	87-036-215-080		SW, TACT EVQ21404M
S331	87-036-215-080		SW, TACT EVQ21404M
S332	87-036-215-080		SW, TACT EVQ21404M
S341	87-036-215-080		SW, TACT EVQ21404M
S342	87-036-215-080		SW, TACT EVQ21404M
S343	87-036-215-080		SW, TACT EVQ21404M
S344	87-036-215-080		SW, TACT EVQ21404M
S345	87-036-215-080		SW, TACT EVQ21404M
S346	87-036-215-080		SW, TACT EVQ21404M
S347	87-036-215-080		SW, TACT EVQ21404M
S348	87-036-215-080		SW, TACT EVQ21404M
VR601	82-NK7-616-010		VR, 10KB RK11K1130
VR602	82-NK7-615-010		VR, 10KA RK11K1130
X201	87-030-345-080		VIB, CER CST 5.76MGW
3CD C.B			
C1	87-010-188-080		C-CAP, S 6800P-50 B
C2	87-010-196-080		C-CAP, S 0.1-25 F
C3	87-010-196-080		C-CAP, S 0.1-25 F
C4	87-010-196-080		C-CAP, S 0.1-25 F
C5	87-010-404-080		CAP, E 4.7-50 SME
C6	87-010-213-080		C-CAP, S 0.015-25 B
C7	87-010-197-080		C-CAP, S 0.01-25 B
C8	87-010-403-080		CAP, E 3.3-50 SME
C9	87-010-382-080		CAP, E 22-25 SME
C10	87-010-260-080		CAP, E 47-25 SME
C11	87-010-197-080		C-CAP, S 0.01-25 B
C12	87-010-193-080		C-CAP, S 0.033-25 F

REF. NO	PART NO.	カンリ NO.	DESCRIPTION
C13	87-010-197-080		C-CAP, S 0.01-25 B
C14	87-010-193-080		C-CAP, S 0.033-25 F
C15	87-010-182-080		C-CAP, S 2200P-50 B
C21	87-010-198-080		C-CAP, S 0.022-25 B
C22	87-010-196-080		C-CAP, S 0.1-25 F
C23	87-010-263-080		CAP, E 100-10
C24	87-010-178-080		C-CAP, S 1000P-50 B
C25	87-010-197-080		C-CAP, S 0.01-25 B
C26	87-010-260-080		CAP, E 47-25 SME
C27	87-010-196-080		C-CAP, S 0.1-25 F
C28	87-010-263-080		CAP, E 100-10
C29	87-010-197-080		C-CAP, S 0.01-25 B
C30	87-010-196-080		C-CAP, S 0.1-25 F
C31	87-010-193-080		C-CAP, S 0.033-25 F
C33	87-010-196-080		C-CAP, S 0.1-25 F
C34	87-010-197-080		C-CAP, S 0.01-25 B
C35	87-010-381-080		CAP, E 330-16 SME
C36	87-010-196-080		C-CAP, S 0.1-25 F
C37	87-010-260-080		CAP, E 47-25 SME
C38	87-010-197-080		C-CAP, S 0.01-25 B
C39	87-010-260-080		CAP, E 47-25 SME
C40	87-010-197-080		C-CAP, S 0.01-25 B
C41	87-010-146-080		C-CAP, S 2P-50 CH
C42	87-010-154-080		C-CAP, S 10P-50 CH
C45	87-010-196-080		C-CAP, S 0.1-25 F
C101	87-010-194-080		C-CAP, S 0.047-25 F
C102	87-010-180-080		C-CAP, S 1500P-50 B
C103	87-010-263-080		CAP, E 100-10
C104	87-010-197-080		C-CAP, S 0.01-25 B
C105	87-010-186-080		C-CAP, S 4700P-50 B
C106	87-012-156-080		C-CAP, S 220P-50 CH
C107	87-010-197-080		C-CAP, S 0.01-25 B
C108	87-010-400-080		CAP, E 0.47-50 SME
C112	87-010-154-080		C-CAP, S 10P-50 CH
C113	87-010-154-080		C-CAP, S 10P-50 CH
C114	87-010-314-080		C-CAP, S 22P-50 CH
C115	87-010-404-080		CAP, E 4.7-50 SME
C116	87-010-263-080		CAP, E 100-10
C117	87-010-194-080		C-CAP, S 0.047-25 F
C118	87-010-154-080		C-CAP, S 10P-50 CH
C120	87-010-263-080		CAP, E 100-10
C121	87-010-197-080		C-CAP, S 0.01-25 B
C122	87-010-196-080		C-CAP, S 0.1-25 F
C201	87-012-153-080		C-CAP, S 120P-50 CH
C202	87-012-153-080		C-CAP, S 120P-50 CH
C203	87-012-153-080		C-CAP, S 120P-50 CH
C204	87-012-153-080		C-CAP, S 120P-50 CH
C205	87-012-153-080		C-CAP, S 120P-50 CH
C206	87-012-153-080		C-CAP, S 120P-50 CH
C207	87-012-153-080		C-CAP, S 120P-50 CH
C208	87-012-153-080		C-CAP, S 120P-50 CH
C209	87-012-153-080		C-CAP, S 120P-50 CH
C210	87-012-153-080		C-CAP, S 120P-50 CH
C211	87-010-401-080		CAP, E 1-50 SME
C212	87-010-401-080		CAP, E 1-50 SME
C213	87-010-186-080		C-CAP, S 4700P-50 B
C214	87-010-186-080		C-CAP, S 4700P-50 B
C231	87-010-263-080		CAP, E 100-10
C232	87-010-263-080		CAP, E 100-10
C301	87-010-178-080		C-CAP, S 1000P-50 B
C304	87-010-197-080		C-CAP, S 0.01-25 B
C305	87-010-260-080		CAP, E 47-25 SME
C306	87-010-198-080		C-CAP, S 0.022-25 B
C307	87-010-178-080		C-CAP, S 1000P-50 B
C308	87-010-178-080		C-CAP, S 1000P-50 B
C310	87-018-209-080		CAP, TC-U 0.1-50 F〈HE, HM, HR〉
C311	87-018-209-080		CAP, TC-U 0.1-50 F〈HE, HM, HR〉
C312	87-018-209-080		CAP, TC-U 0.1-50 F〈HE, HM, HR〉
L1	87-003-295-080		COIL, 10UH
M301	87-045-305-010		MOTOR, RF-500TB

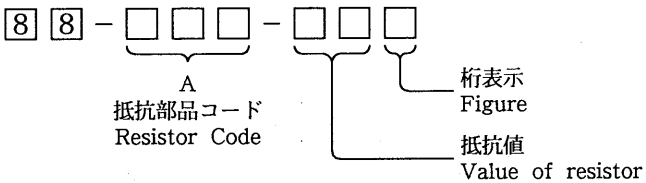
REF. NO	PART NO.	カンリ NO.	DESCRIPTION
SFR1	87-024-176-080		SFR, 100K DIA6 V
SFR2	87-024-173-080		SFR 22K DIA6 V
SFR3	87-024-176-080		SFR, 100K DIA6 V
W301	83-NF5-631-010		F-CABLE, 6-2.0 300
W501	83-NF5-644-010		F-CABLE, 2-2.0-230
X101	87-030-227-080		VIB, XTAL 33.8688MHZ
ECHO/DSP C.B			
C901	87-010-248-040		CAP, E 220-10 SME
C902	87-010-384-040		CAP, E 100-25 SME
C903	87-010-186-080		C-CAP, S 4700P-50 B
C904	87-010-322-080		C-CAP, S 100P-50 CH
C905	87-010-401-040		CAP, E 1-50 SME
C906	87-010-187-080		C-CAP, S 5600P-50 B
C907	87-010-193-080		C-CAP, S 0.033-25 F
C908	87-010-544-040		CAP, E 0.1-50 SME
C909	87-010-188-080		C-CAP, S 6800P-50 B
C910	87-012-365-080		C-CAP, S 0.027-25V BK
C911	87-010-263-040		CAP, E 100-10
C912	87-010-196-080		C-CAP, S 0.1-25 F
C913	87-010-316-080		C-CAP, S 33P-50 CH
C914	87-010-177-080		C-CAP, S 820P-50 SL
C915	87-010-316-080		C-CAP, S 33P-50 CH
C916	87-010-177-080		C-CAP, S 820P-50 SL
C917	87-010-179-080		C-CAP, S 1200P-50 B
C918	87-010-196-080		C-CAP, S 0.1-25 F
C919	87-010-260-040		CAP, E 47-25 SME
C920	87-010-400-040		CAP, E 0.47-50
C921	87-010-400-040		CAP, E 0.47-50
C922	87-010-196-080		C-CAP, S 0.1-25 F
C923	87-010-187-080		C-CAP, S 5600P-50 B
C924	87-010-179-080		C-CAP, S 1200P-50 B
C925	87-010-198-080		C-CAP, S 0.022-25 B
C926	87-010-196-080		C-CAP, S 0.1-25 F
C927	87-010-181-080		C-CAP, S 1800P-50 B
C928	87-010-181-080		C-CAP, S 1800P-50 B
C929	87-010-382-040		CAP, E 22-25 SME
C941	87-010-197-080		C-CAP, S 0.01-25 B
C942	87-010-197-080		C-CAP, S 0.01-25 B
C960	87-010-260-040		CAP, E 47-25 SME
L901	87-005-490-080		COIL, 270UH J FLR50
MVR C.B			
C735	87-010-402-040		CAP, E 2.2-50 SME
C736	87-010-402-040		CAP, E 2.2-50 SME
C738	87-010-370-040		CAP, E 330-6.3 SME
C741	87-010-192-080		C-CAP, S 0.022-50 F
C745	87-016-073-080		CAP, E 1-50 FX
C746	87-016-073-080		CAP, E 1-50 FX
C747	87-010-401-040		CAP, E 1-50 SME
C748	87-010-401-040		CAP, E 1-50 SME
C750	87-010-384-040		CAP, E 100-25 SME
C751	87-010-401-040		CAP, E 1-50 SME
C752	87-010-401-040		CAP, E 1-50 SME
C757	87-010-401-040		CAP, E 1-50 SME
C773	87-010-400-040		CAP, E 0.47-50 SME
C777	87-010-403-040		CAP, E 3.3-50 SME
C778	87-010-403-040		CAP, E 3.3-50 SME
C797	87-010-401-040		CAP, E 1-50 SME
MVR741	81-MT3-630-010		VOL, 50KBX2 (M)
KEY C.B			
C351	87-010-197-080		C-CAP, S 0.01-25 B
LED415	87-002-787-080		LED, SEL 6215S RED
LED416	87-002-787-080		LED, SEL 6215S RED
LED417	87-002-787-080		LED, SEL 6215S RED
S349	87-036-215-080		SW, TACT EVQ21404M

REF. NO	PART NO.	ｶﾝﾘ NO.	DESCRIPTION
S350	87-036-215-080		SW, TACT EVQ21404M
S351	87-036-215-080		SW, TACT EVQ21404M
S352	87-036-215-080		SW, TACT EVQ21404M
S353	87-036-215-080		SW, TACT EVQ21404M
SNSR C. B			
PH401	87-026-573-010		P-SNSR, GP1S53V
MOTOR-1 C. B			
C301	87-018-209-080		CAP, TC-U 0. 1-50 F〈HE, HM, HR〉
M302	87-045-305-010		MOTOR, RF-500TB
U/D SW C. B			
SW601	87-036-271-010		SW, LVR 1-2-2 (*)
OPEN SW C. B			
SW602	87-036-271-010		SW, LVR 1-2-2 (*)
CLOSE SW C. B			
SW701	87-036-109-010		SW, PUSH SPPB 61
LED C. B			
LED902	87-017-806-010		LED, SEL1810DM
LED902	87-017-806-010		LED, SEL1810DM
LED903	87-017-350-080		LED, SEL1550CM
LED903	87-017-350-080		LED, SEL1550CM
LED904	87-017-350-080		LED, SEL1550CM
LED904	87-017-350-080		LED, SEL1550CM
LED905	87-017-806-010		LED, SEL1810DM
LED905	87-017-806-010		LED, SEL1810DM
MOTOR-2 C. B			
M2	9X-262-513-210		SLED MOTOR
S4	91-572-085-110		LEAF SW

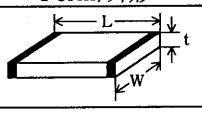
REF. NO	PART NO.	ｶﾝﾘ NO.	DESCRIPTION
AC2 C. B			
⚠ PT1	83-NF5-606-010		PT, 3NF-5 HE〈HE, HM, LH〉
⚠ PT1	83-NF5-604-010		PT, 3NF-5 HR〈HR〉
R101	87-022-537-080		RES, NF 0. 68-1/2W J
R102	87-022-537-080		RES, NF 0. 68-1/2W J
DECK-1 C. B			
SOL1	82-ZM1-618-310		SOL ASSY, 27
SW4	87-036-110-010		SW, PUSH SPPB 62
SW5	87-036-110-010		SW, PUSH SPPB 62
SW6	87-036-110-010		SW, PUSH SPPB 62
DECK-2 C. B			
SFR1	87-024-170-080		SFR, 3. 3K DIA6 V
SOL2	82-ZM1-618-310		SOL ASSY, 27
SW2	87-036-110-010		SW, PUSH SPPB 62
SW3	87-036-110-010		SW, PUSH SPPB 62
SW4	87-036-110-010		SW, PUSH SPPB 62
SW5	87-036-110-010		SW, PUSH SPPB 62
SW6	87-036-110-010		SW, PUSH SPPB 62
RELAY-1 C. B			
RELAY-2 C. B			
AC1 C. B			
⚠	87-033-147-010		CLAMP, FUSE
⚠	82-304-743-010		TERMINAL, 1P
⚠ F101	87-035-367-010		FUSE, 3. 15A 250V T〈HR〉
⚠ F101	87-035-415-010		FUSE, T2. 5A 250V UL〈HE, HM, LH〉
⚠ SW101	87-036-229-010		SW, SL DP3C RA
TR C. B〈HR〉			

○チップ抵抗部品コード／CHIP RESISTOR PART CODE

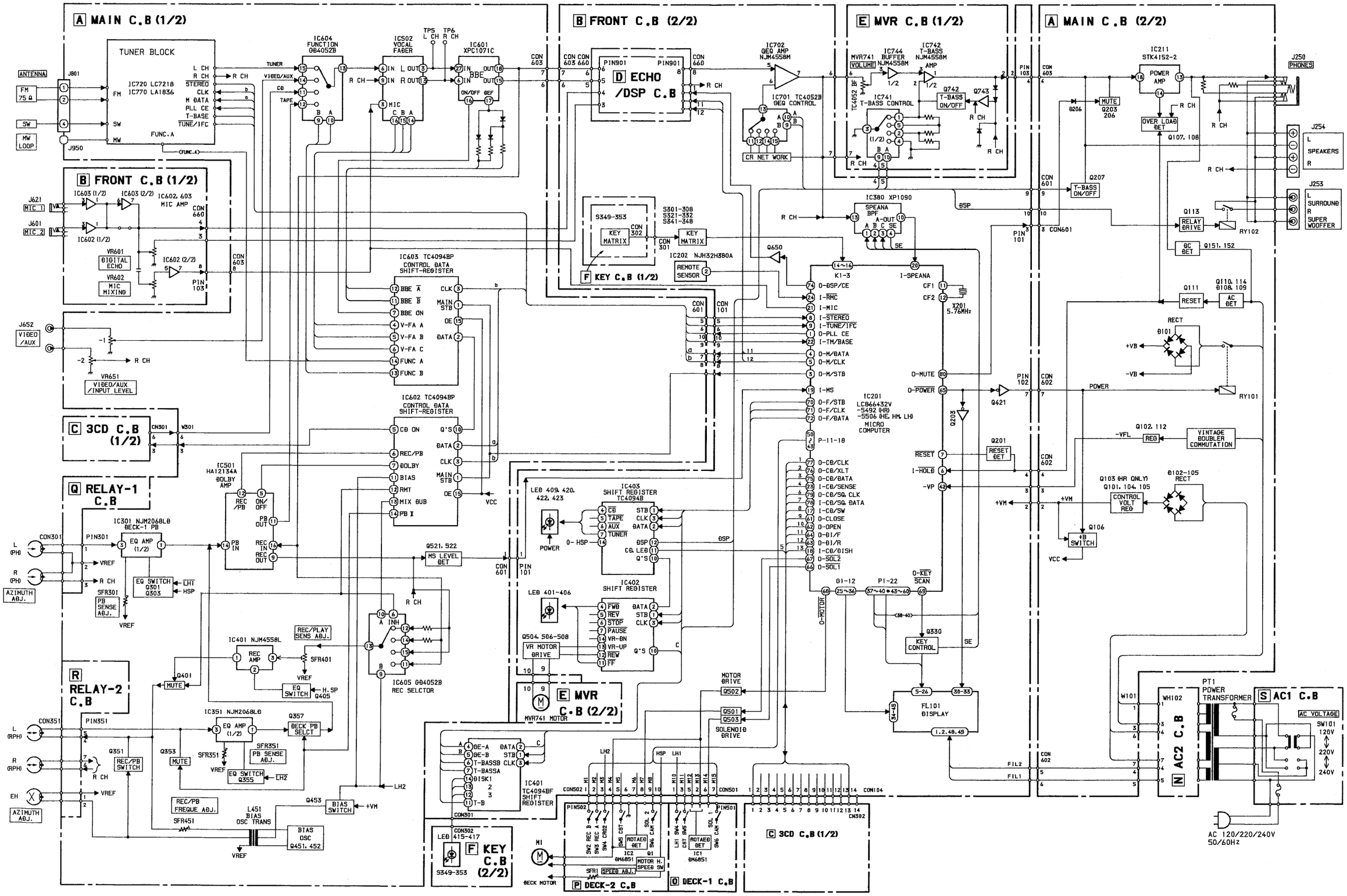
チップ抵抗部品コードの成り立ち
Chip Resistor Part Coding



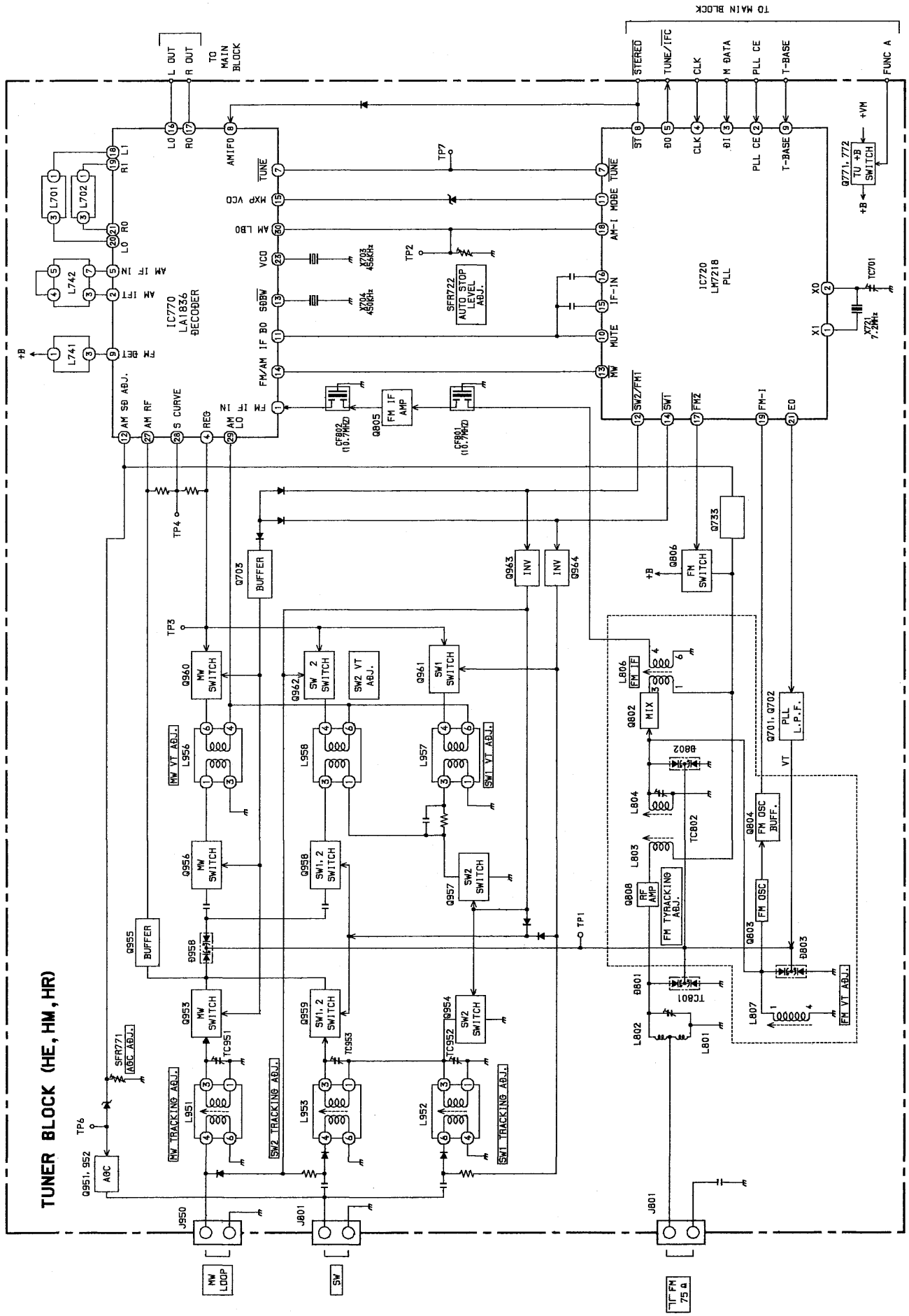
チップ抵抗
Chip resistor

Wattage 容量	Type 種類	Tolerance 許容誤差	Symbol 記号	Dimensions／寸法 (mm) Form/外形	L	W	t	Resistor Code : A 抵抗コード : A
1/32W	1608	±5%	CJ		1.6	0.8	0.35	108
1/10W	2125	±5%	CJ		2	1.25	1.45	118
1/8W	3126	±5%	CJ		3.2	1.6	0.5 ~0.7	128

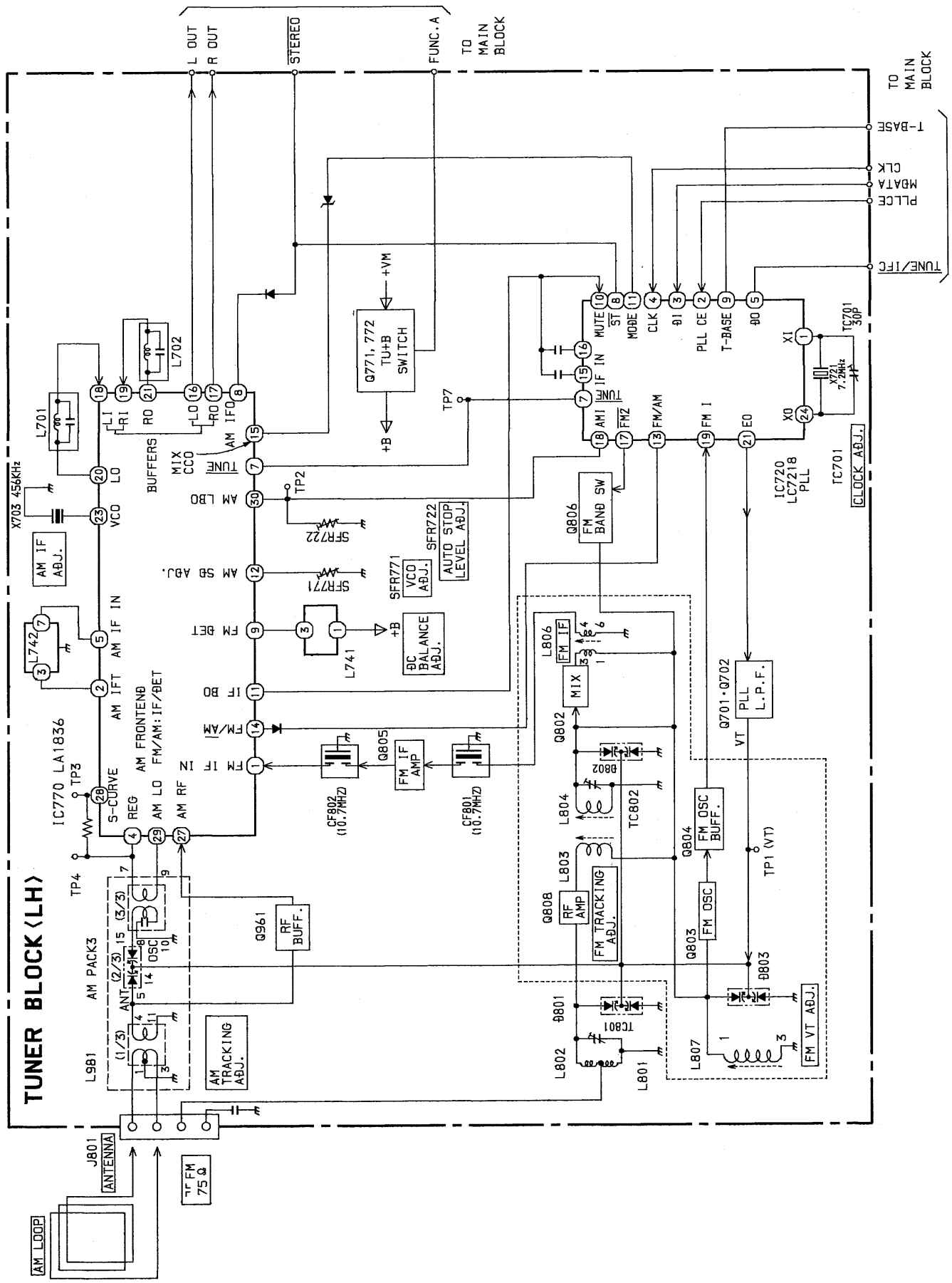
BLOCK DIAGRAM – 1 (MAIN/FRONT)



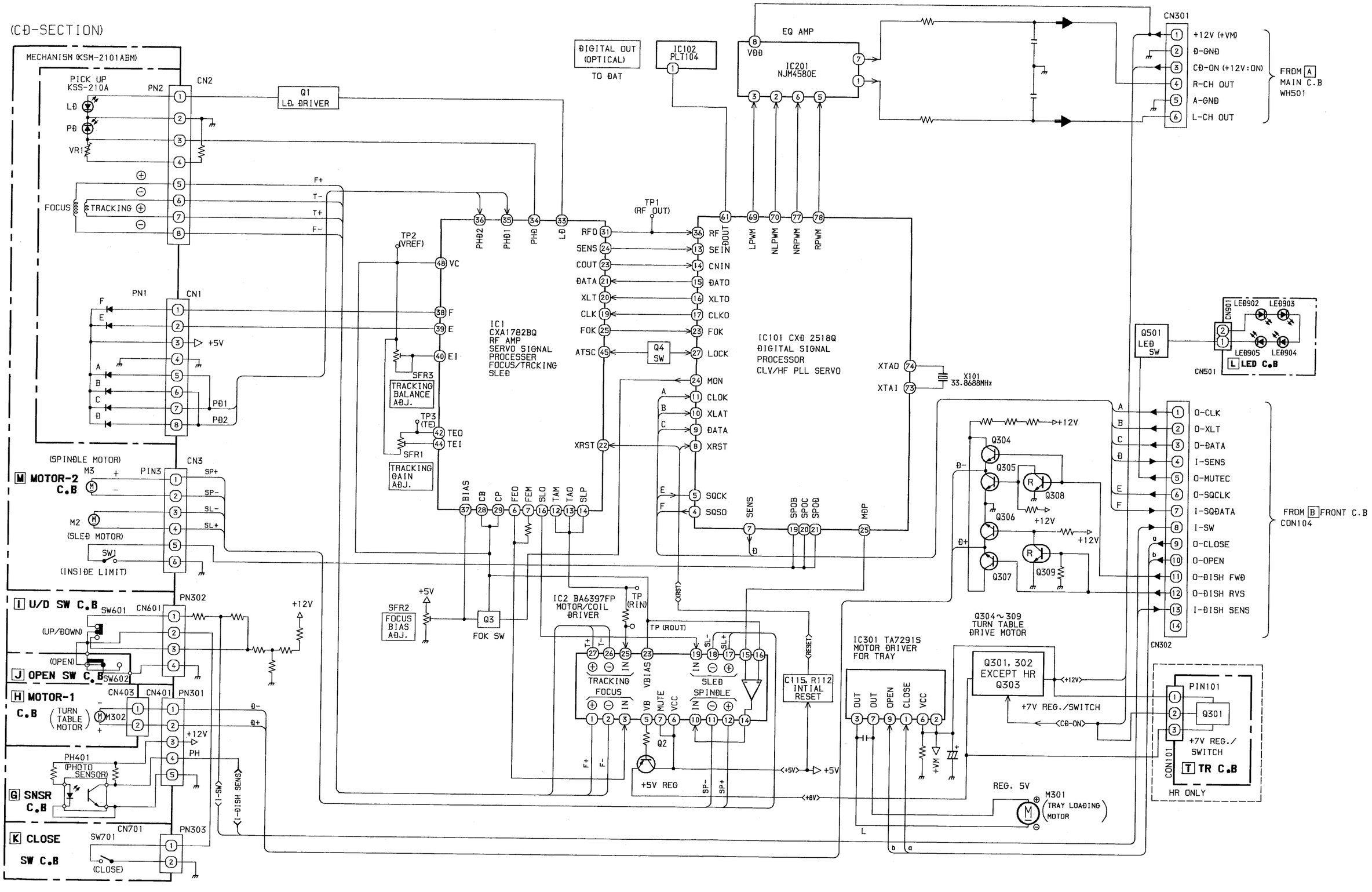
BLOCK DIAGRAM – 2 (TUNER : HE, HM, HR)



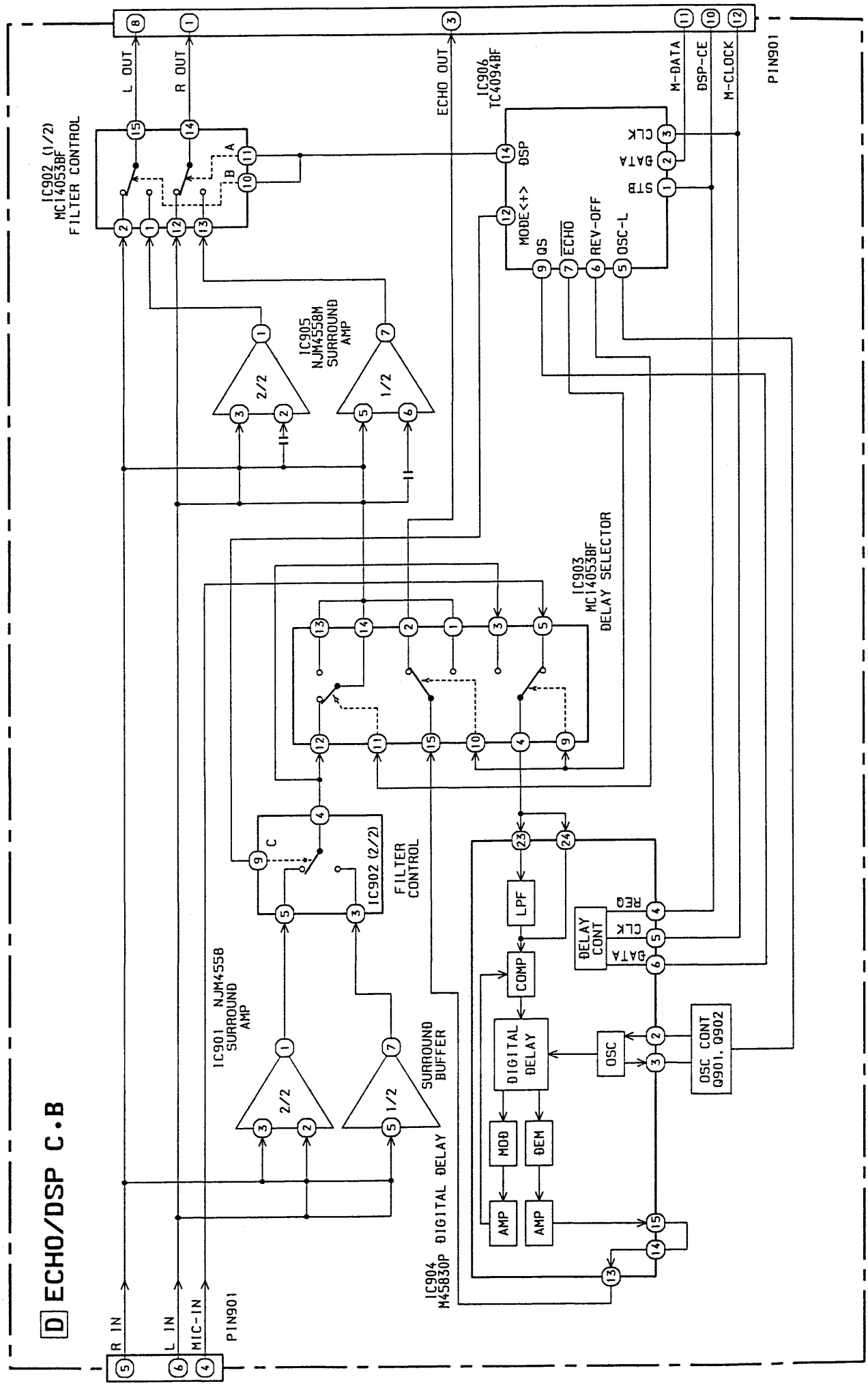
BLOCK DIAGRAM – 3 (TUNER : LH)



BLOCK DIAGRAM – 4 (CD)

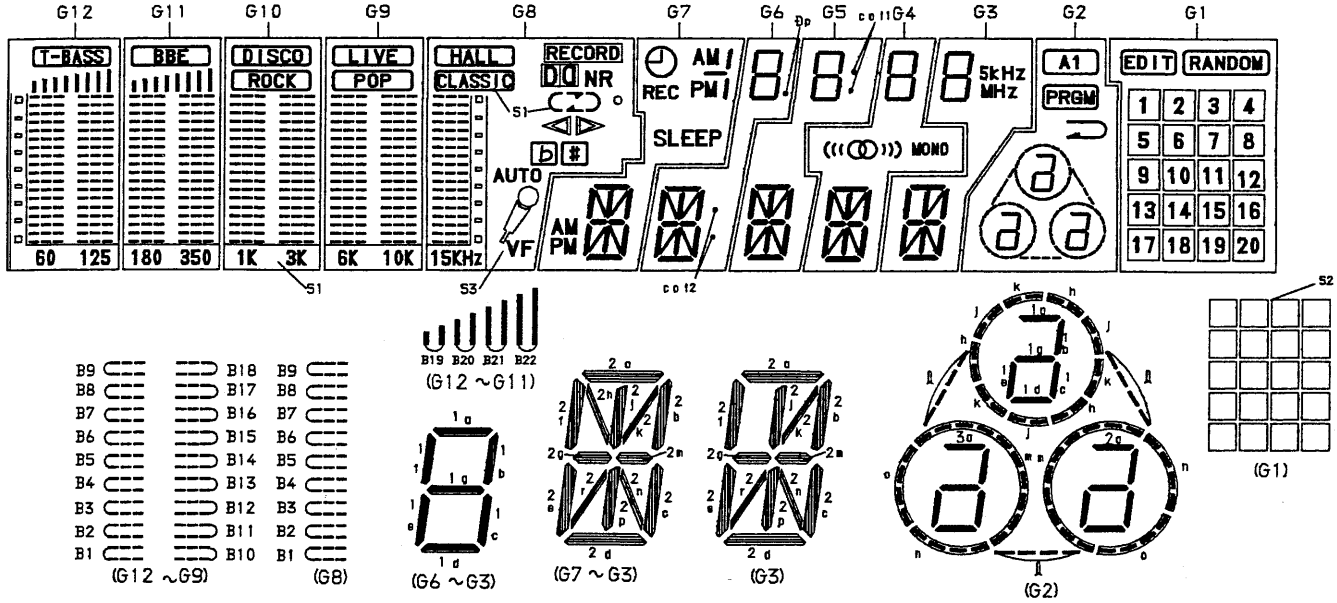


BLOCK DIAGRAM – 5 (DSP)



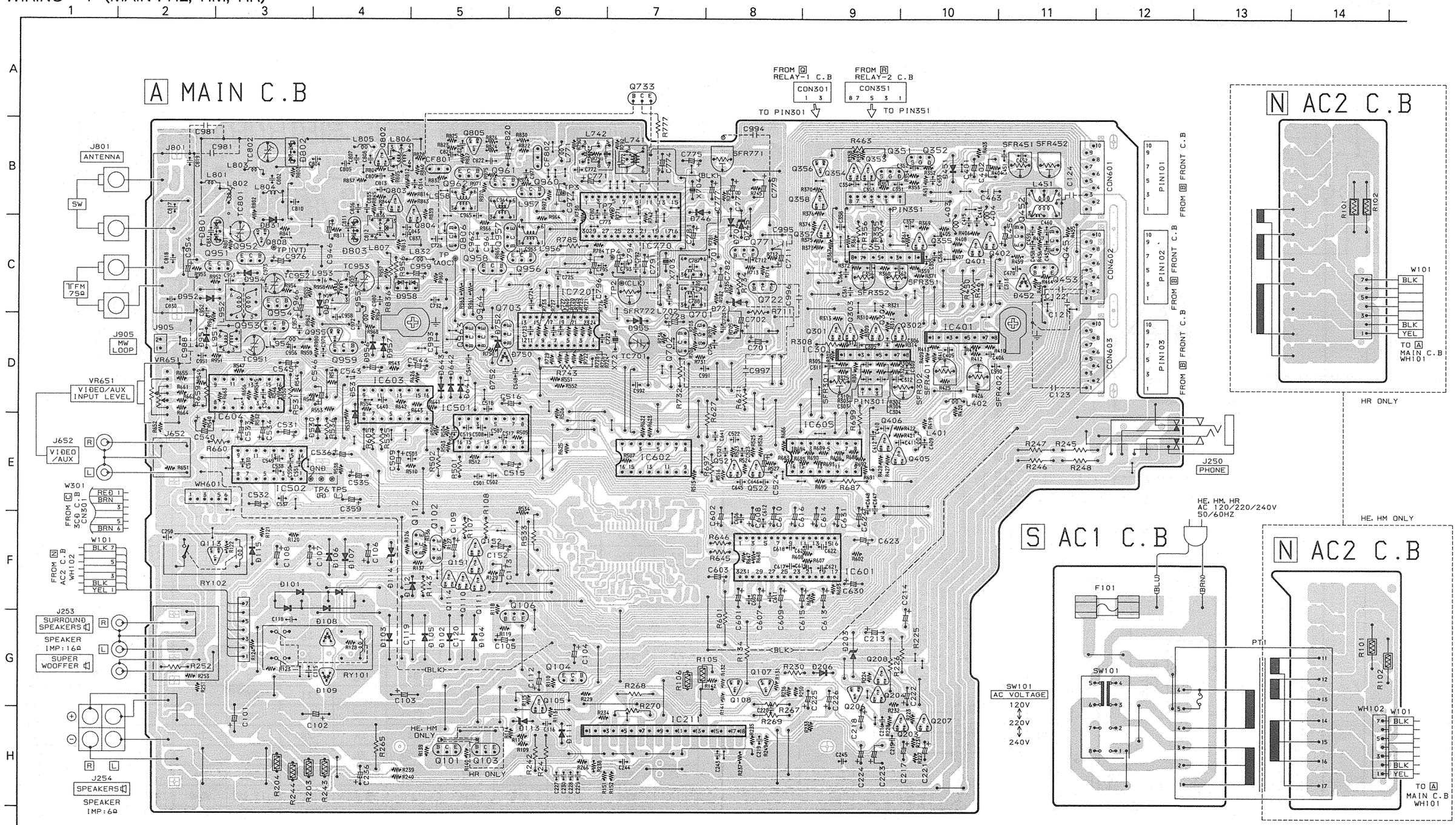
FL (BJ238GK) GRID ASSIGNMENT／ANODE CONNECTION

GRID ASSIGNMENT

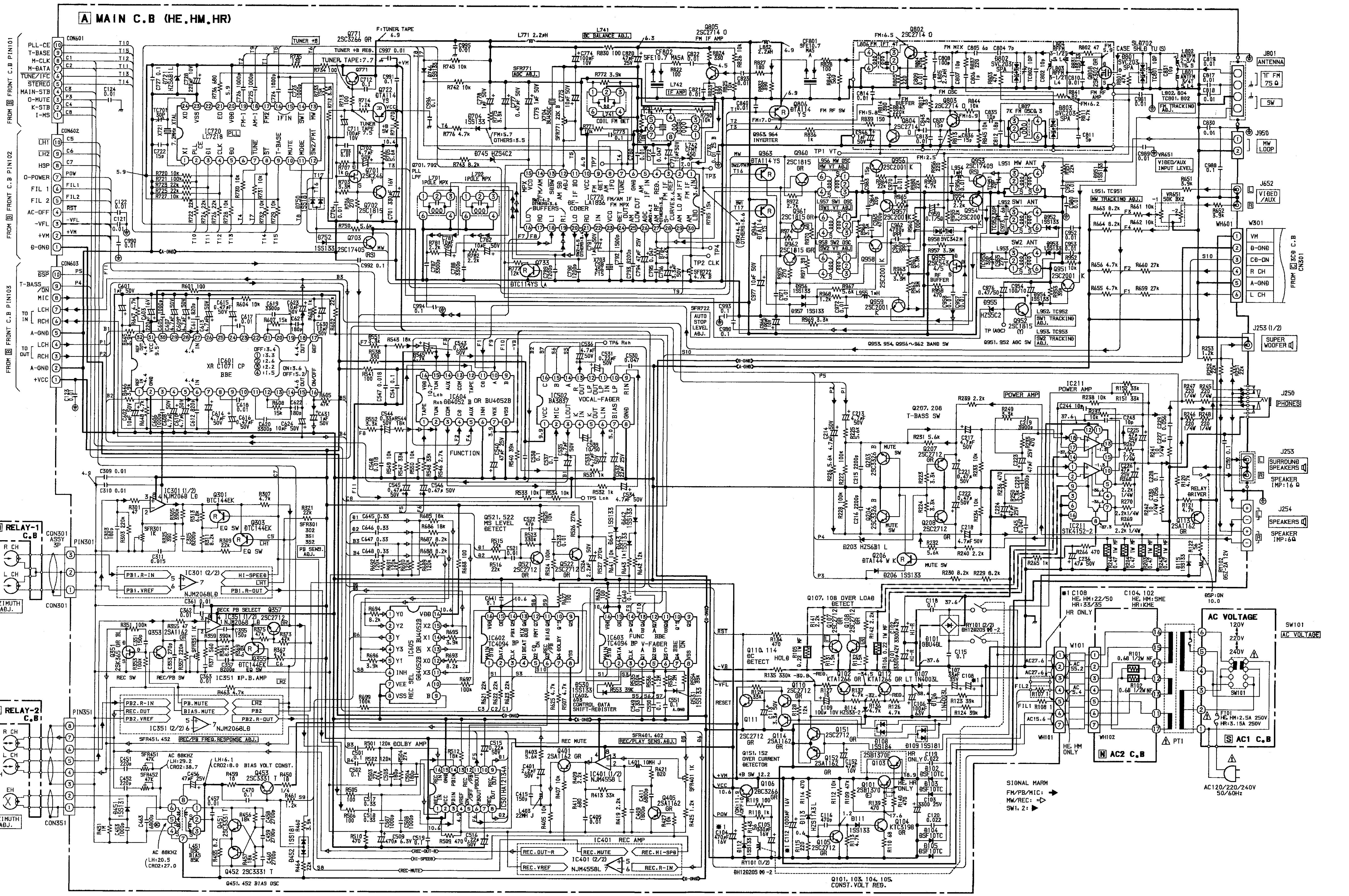


ANODE CONNECTION

	G12	G11	G10	G9	G8	G7	G6	G5	G4	G3	G2	G1
P1	B10	B10	B10	B10	S3	2d	2d	2d	2d	2d	n	**20**
P2	B1	B1	B1	B1	B1	2j,2p	2j,2p	2j,2p	2j,2p	2j,2p	o	**19**
P3	B11	B11	B11	B11	**AUTO**	2n	2n	2n	2n	2n	3e	**18**
P4	B2	B2	B2	B2	B2	2r	2r	2r	2r	2r	3c	**17**
P5	B12	B12	B12	B12	(b)	2c	2c	2c	2c	2c	3a,3d,3g	**16**
P6	B3	B3	B3	B3	B3	2e	2e	2e	2e	2e	3b	**15**
P7	B13	B13	B13	B13	(#)	2m	2m	2m	2m	2m	2e	**14**
P8	B4	B4	B4	B4	B4	2g	2g	2g	2g	2g	2c	**13**
P9	B5	B5	B5	B5	B5	2f	2f	2f	2f	2f	2a,2d,2g	**12**
P10	B15	B15	B15	B15	▷	2b	2b	2b	2b	2b	l	**11**
P11	B6	B6	B6	B6	B6	2K	2K	2K	2K	2K	j	**10**
P12	B16	B16	B16	B16	◁	2h	2h	2h	2h	**MHz**	h	**9**
P13	B7	B7	B7	B7	B7	2a	2a	2a	2a	2a	k	**8**
P14	B14	B14	B14	B14	)	**PM** [DOWN]	col 2	col 1 [UP]	**MONO**	**KHz**	2b	**7**
P15	B17	B17	B17	B17	(	**AM** [DOWN]	Dp	col 1 [DOWN]	((( )))	**5**	1e	**6**
P16	B8	B8	B8	B8	B8	**SLEEP**	1d	1d	1d	1d	1a,1d,1g	**5**
P17	B18	B18	B18	B18	o	**REC**	1e	1e	1e	1e	1c	**4**
P18	B9	B9	B9	B9	B9	**PM** [UP]	1c	1c	1c	1c	1b	**3**
P19	B19 (T-BASS)	B19 (BBE)	(ROCK)	(POP)	DD NR	**AM** [UP]	1g	1g	1g	1g	m	**2**
P20	B20	B20	(DISCO)	(LIVE)	RECORD	—	1f	1f	1f	1f	A1	**1**
P21	B21	B21	—	—	(CLASSIC)	/	1b	1b	1b	1b	↩	EDIT
P22	B22	B22	—	—	(HALL)	🕘	1a	1a	1a	1a	PRGM	RANDOM
ST1	S1 **T-BASS**	S1	S1 **ROCK**	S1 **POP**	S1	—	—	—	—	—	—	S2
ST2	—	**BBE**	—	—	—	—	—	—	—	—	—	—
ST3	—	—	**DISCO**	**LIVE**	**HALL**	—	—	—	—	—	—	—
ST4	—	—	—	—	b #	—	—	—	—	—	—	—


A MAIN C.B
FROM Q RELAY-1 C.B
CON301
TO PIN301
FROM R RELAY-2 C.B
CON351
TO PIN351
J801 ANTENNA
SW
FM 75Ω
J905 MW LOOP
VR651 VIDEO/AUX INPUT LEVEL
J652 VIDEO /AUX
W301
FROM C MAIN C.B CN301
RED 1
BRN
BRN 6
W101
BLK 7
FROM N AC2 C.B WH102
BLK
YEL
J253 SURROUND SPEAKERS
SPEAKER IMP:16Ω
SUPER WOOFFER
J254 SPEAKERS
SPEAKER IMP:6Ω
J250 PHONE
HE, HM ONLY
HR ONLY
N AC2 C.B
FROM B FRONT C.B
PIN101
PIN102
PIN103
W101
BLK
YEL
TO A MAIN C.B WH101
HR ONLY
HE, HM, HR
AC 120/220/240V
50/60HZ
HE, HM ONLY
S AC1 C.B
F101
BLU
BRN
PT1
SW101
SW101
AC VOLTAGE
120V
220V
240V
WH102
W101
BLK
BLK
YEL
TO A MAIN C.B WH101

SCHEMATIC DIAGRAM – 1 (MAIN : HE, HM, HR)


A MAIN C.B (HE.HM.HR)
FROM B FRONT C.B PIN101
FROM B FRONT C.B PIN102
FROM B FRONT C.B PIN103
CON601
CON602
CON603
IC720 LC7218 PLL
IC770 LA1836 FM/AM IF FM MPX
IC601 XR C1071 CP BBE
IC604 GD4052 B OR BU4052B
FUNCTION
IC502 BA3837 VOCAL-FADER
IC301 (1/2) NJM2068 LD
IC301 (2/2) NJM2068LD
IC351 (1/2) NJM2068 LD
IC351 (2/2) NJM2068LD
IC351 P.B.AMP
IC605 REC SEL GD4052B OR BU4052B
IC602 TC4094 BP
IC603 TC4094 BP V-FADER
IC602, 603 CONTROL DATA SHIFT-REGISTER
IC501 HA12134A
DOLBY AMP
IC401 (1/2) NJM4558 L
IC401 (2/2) NJM4558L
IC401 REC AMP
Q451, 452 BIAS OSC
Q521, 522 MS LEVEL DETECT
Q RELAY-1 C.B
R RELAY-2 C.B
AZIMUTH ADJ.
IC211 STK4152-2 POWER AMP
Q207, 208 T-BASS SW
Q107, 108 OVER LOAD DETECT
Q110, 114 DC DETECT
Q151, 152 OVER CURRENT DETECTOR
Q101, 103, 104, 105 CONST. VOLT REG.
J801 ANTENNA
J950 MW LOOP
J652 VIDEO/AUX
J253 (1/2) SUPER WOOFER
J250 PHONES
J253 SURROUND SPEAKERS SPEAKER IMP:16 Ω
J254 SPEAKERS SPEAKER IMP:6Ω
W301 FROM C 3CD C.B CN301
N AC2 C.B
S AC1 C.B
AC VOLTAGE 120V 220V 240V
SW101 AC VOLTAGE
PT1
AC120/220/240V 50/60Hz
SIGNAL MARK
FM/PB/MIC: ➡
MW/REC: ⇨
SW1, 2: ▶

A MAIN C.B

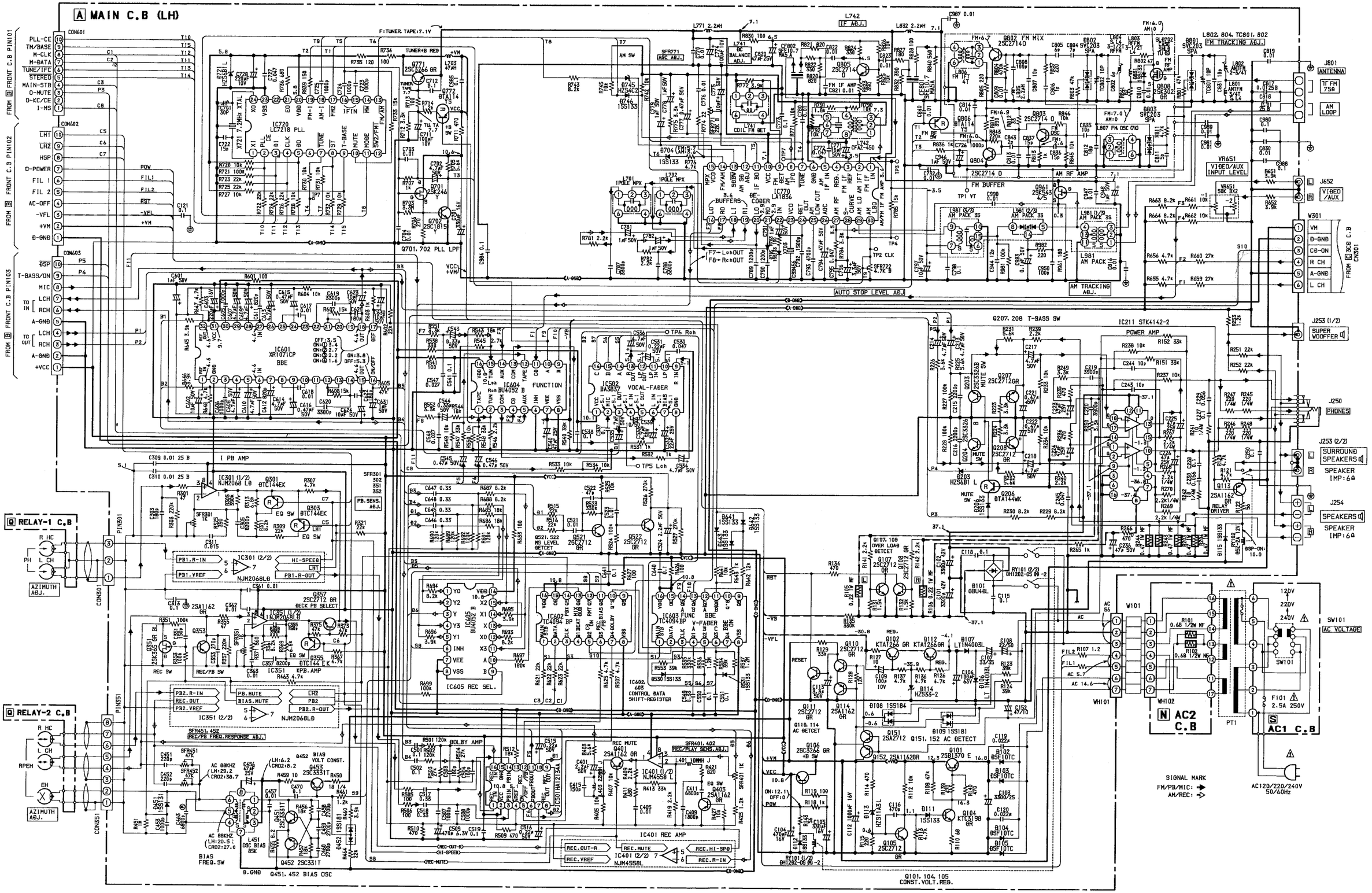
FROM Q RELAY-1 C.B CON301 (3 1) ⇩ TO PIN301
FROM R RELAY-2 C.B CON351 (8 7 5 3 1) ⇩ TO PIN351

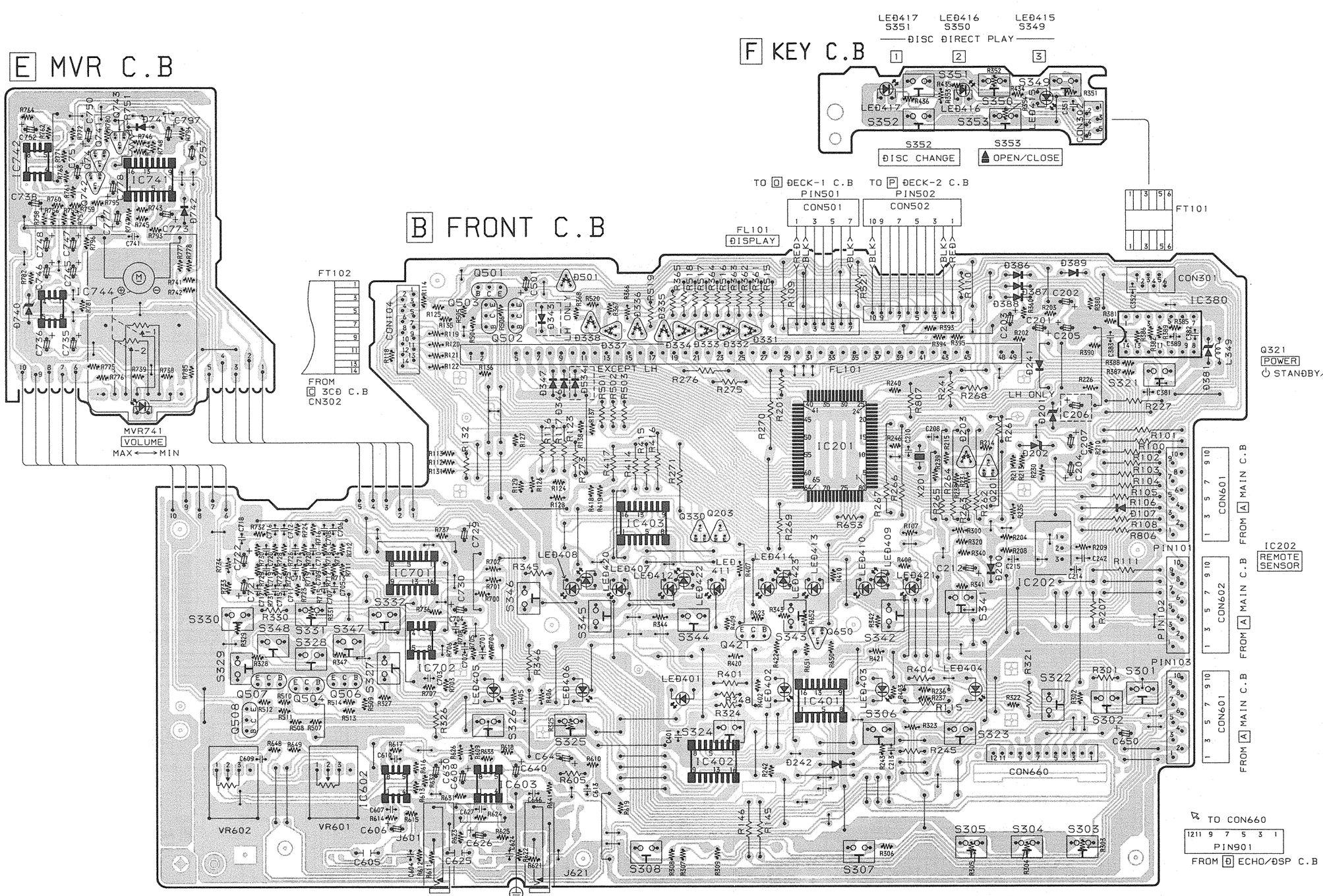
J801 ANTENNA
AM LOOP
FFM 75Ω
VR651 VIDEO/AUX INPUT LEVEL
J652 VIDEO /AUX (R) (L)
FROM C 3C0 C.B CN301
W301 RED BRN BRN
TO N AC2 C.B WH102
W101 7 BLK 5 3 BLK 1 YEL
J253 SURROUND SPEAKERS SPEAKER IMP:16Ω (R) (L)
SUPER WOOFFER (R) (L)
J254 SPEAKERS SPEAKER IMP:6Ω
(BLK)
(530G ONLY)
CON601 CON602 CON603
PIN101 PIN102 PIN103 FROM B FRONT C.B
J250 PHONES

S AC1 C.B
AC 120/220/240V 50/60HZ
F101
PT1
SW101
SW101 AC VOLTAGE 120V ⇕ 220V ⇕ 240V
WH102 W101 BLK BLK YEL TO A MAIN C.B WH101

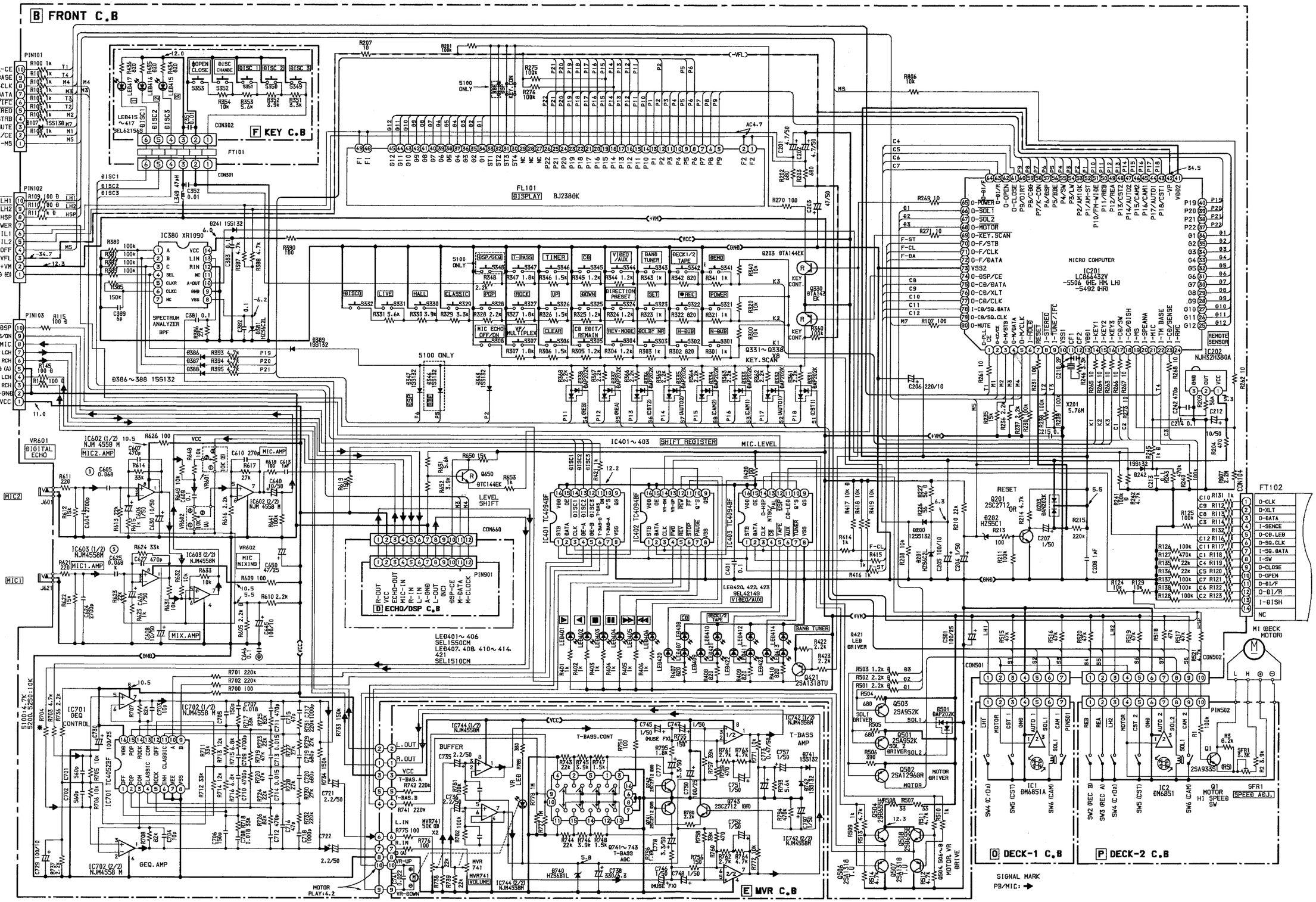
N AC2 C.B

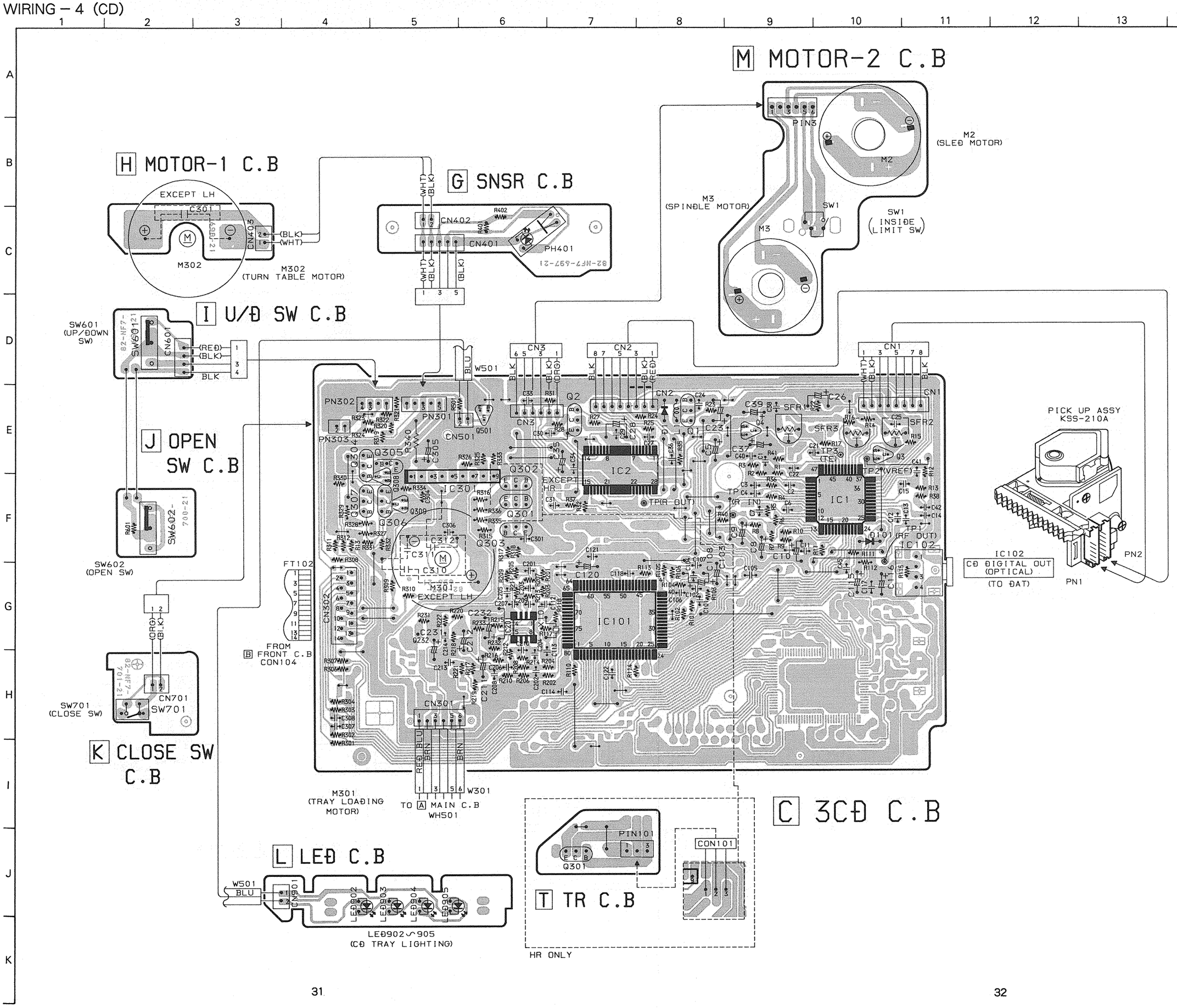
SCHEMATIC DIAGRAM – 2 (MAIN : LH)

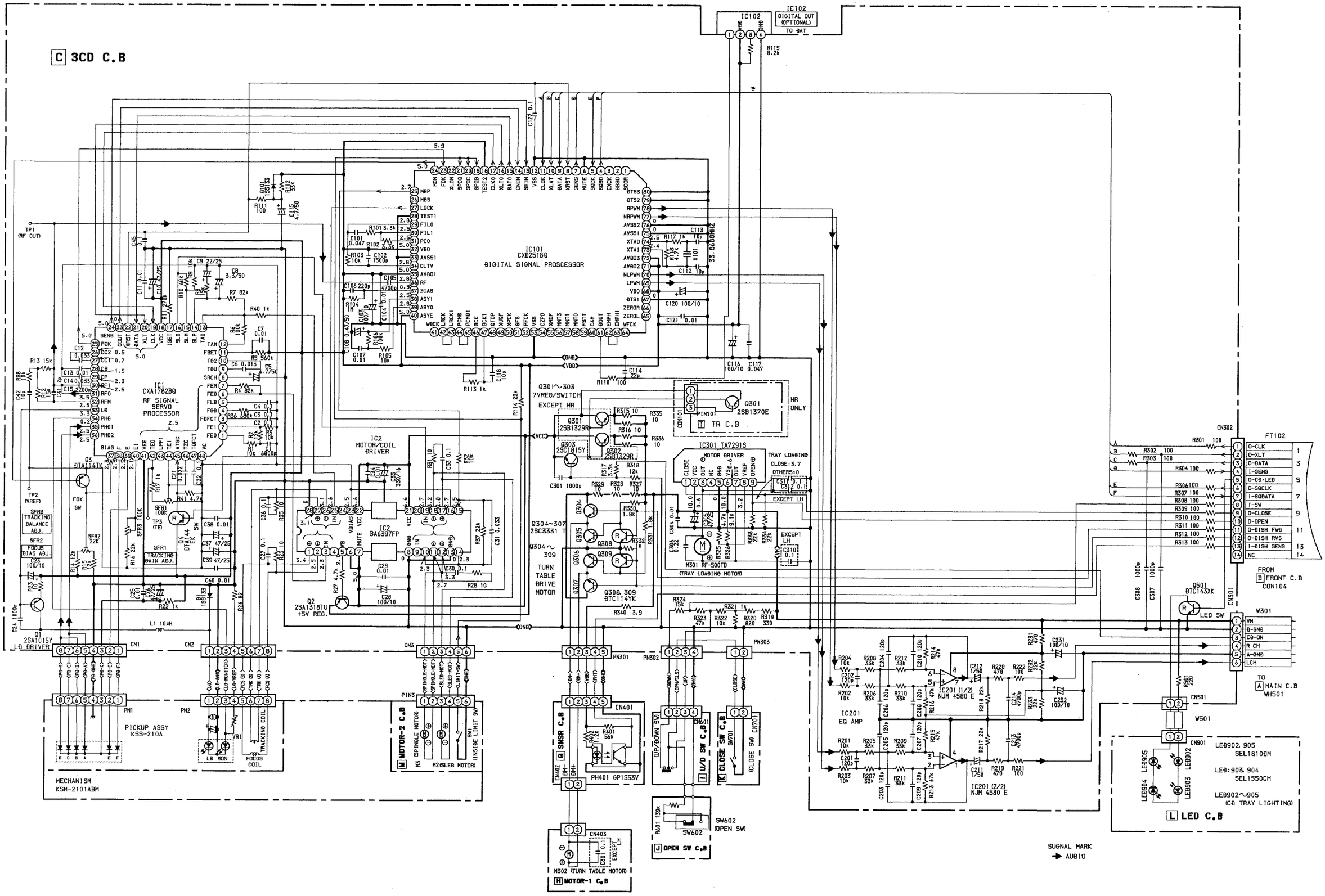



E MVR C.B
MVR741
VOLUME
MAX ⟷ MIN
F KEY C.B
LED417 S351
LED416 S350
LED415 S349
DISC DIRECT PLAY
S352
DISC CHANGE
S353
OPEN/CLOSE
TO O DECK-1 C.B
TO P DECK-2 C.B
PIN501
PIN502
CON501
CON502
FT101
FL101
DISPLAY
B FRONT C.B
FT102
FROM C 3CD C.B CN302
CON104
EXCEPT LH
LH ONLY
IC201
IC202
REMOTE SENSOR
IC380
IC401
IC402
IC403
IC602
IC603
IC701
IC702
CON301
CON660
Q321
POWER
STANDBY/ON
FROM A MAIN C.B CON601
PIN101
PIN102
PIN103
TO CON660
PIN901
FROM D ECHO/DSP C.B
VR602
MIC MIXING
MAX ⟷ MIN
VR601
DIGITAL ECHO
MAX ⟷ MIN
J601
MIC2
J621
MIC1
LED408, 420, 407
S345
CD
LED412, 422, 411
S344
VIDEO/AUX
LED414, 423, 413
S343
BAND TUNER
LED410, 409, 421
S342
DECK1/2 TAPE
S341
DEMO
S322
REC
REC MUTE
S302
HIGH
S301
NORMAL
SYNCHRO DUBBING
S330
HALL
S331
LIVE
S332
DISCO
S348
DSP/GEQ
S347
T-BASS
S329
CLASSIC
S328
POP
S327
ROCK
LED405
S326
UP
S346
TIMER
LED406
S325
DOWN
S308
MIC ECHO OFF/ON
LED401
S324
LED402
DIRECTION/PRESET
LED403
S306
CLEAR
LED404
S323
SET
S307
VOCAL FADER MULTIPLEX
S305
CD EDIT/ REMAIN
S304
REV MODE
S303
DOLBY NR

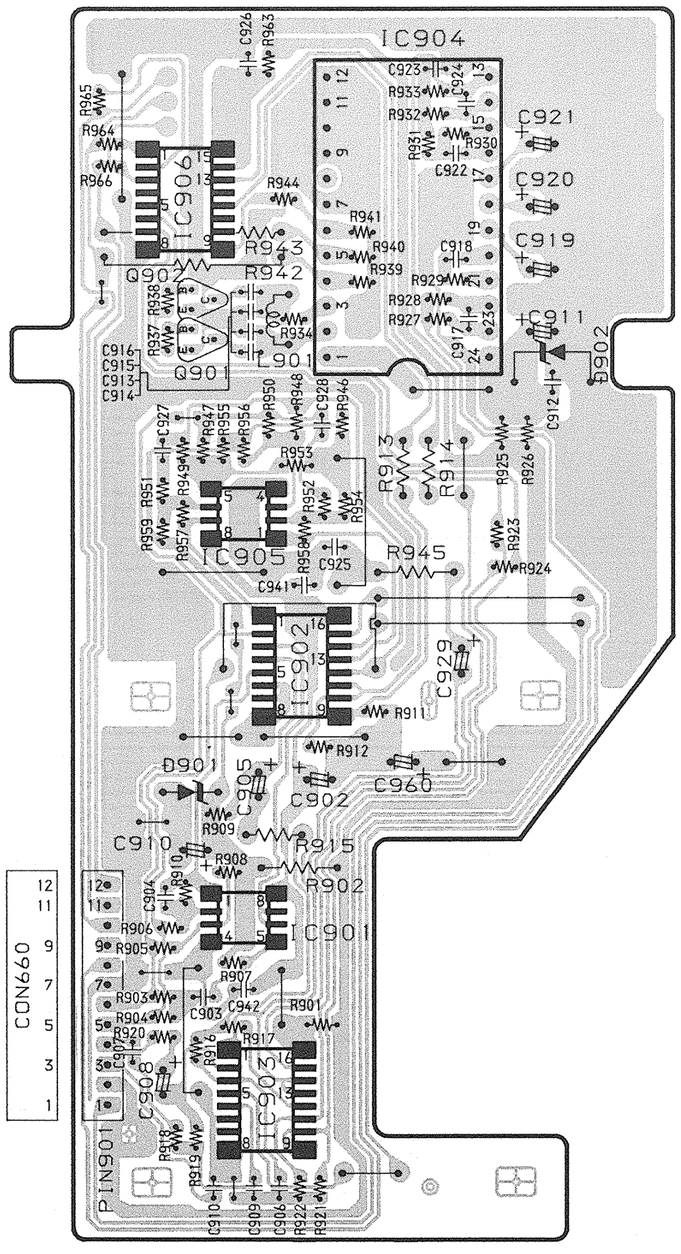
SCHEMATIC DIAGRAM – 3 (FRONT)

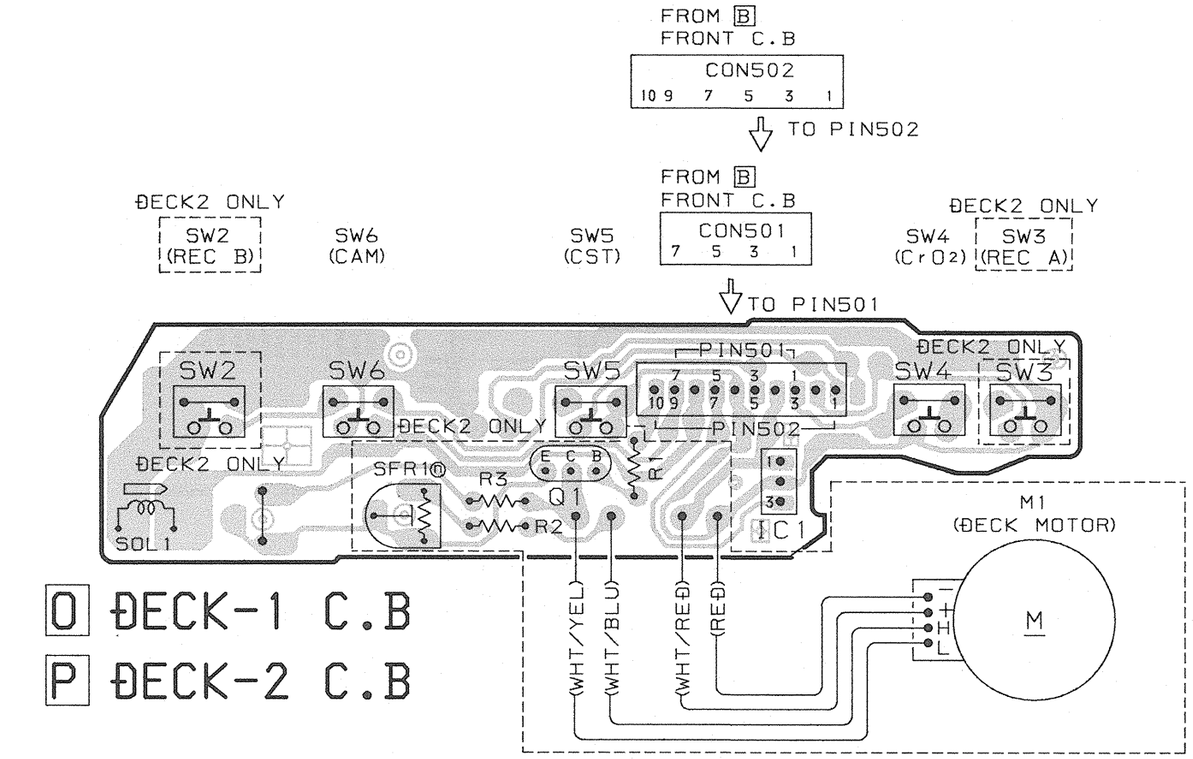



M MOTOR-2 C.B
M2
(SLED MOTOR)
PIN3
M2
M3
(SPINDLE MOTOR)
SW1
M3
SW1
(INSIDE
LIMIT SW)
H MOTOR-1 C.B
EXCEPT LH
C301
M302
M302
(TURN TABLE MOTOR)
(BLK)
(WHT)
CN403
G SNSR C.B
CN402
CN401
R402
R401
PH401
(WHT)
(BLK)
(BLK)
1 3 5
I U/D SW C.B
SW601
(UP/DOWN
SW)
CN601
(RED)
(BLK)
BLK
1
3
4
J OPEN
SW C.B
SW602
(OPEN SW)
R601
SW602-
700-21
K CLOSE SW
C.B
SW701
(CLOSE SW)
CN701
SW701
(ORG)
(BLK)
1 2
FT102
FROM
B FRONT C.B
CON104
W501
BLU
CN3
CN2
CN1
BLK
(ORG)
(RED)
(WHT)
PN302
PN301
PN303
CN501
Q501
Q305
Q304
Q307
Q309
Q306
Q302
Q301
Q303
EXCEPT
HR
IC301
IC312
IC311
IC310
M301
EXCEPT LH
IC2
IC1
IC101
IC102
TP(R OUT)
TP(R IN)
TP2(VREF)
TP1
TP3
(TE)
Q101(RF OUT)
SFR1
SFR2
SFR3
CN302
CN301
RED
BLU
BRN
BRN
M301
(TRAY LOADING
MOTOR)
TO A MAIN C.B
WH501
W301
C 3CD C.B
PICK UP ASSY
KSS-210A
IC102
CD DIGITAL OUT
(OPTICAL)
(TO DAT)
PN2
PN1
L LED C.B
W501
BLU
CN901
LED902
LED903
LED904
LED905
LED902~905
(CD TRAY LIGHTING)
PIN101
Q301
CON101
T TR C.B
HR ONLY


C 3CD C.B
IC102
DIGITAL OUT (OPTIONAL) TO DAT
IC101
CXD2518Q
DIGITAL SIGNAL PROSCESSOR
IC1
CXA1782BQ
RF SIGNAL SERVO PROCESSOR
IC2
MOTOR/COIL DRIVER
IC2
BA6397FP
IC301 TA7291S
MOTOR DRIVER
Q301~303
7VREG/SWITCH
EXCEPT HR
HR ONLY
Q301 2SB1329R
Q303 2SC1815Y
Q302 2SB1329R
Q301 2SB1370E
TR C.B
Q304~307 2SC3331 T
Q304~309
TURN TABLE DRIVE MOTOR
Q308, 309 DTC114YK
Q1 2SA1015Y
LD DRIVER
Q2 2SA1318TU +5V REG.
Q3 DTA114TK
Q4 DTA144EK
Q501 DTC143XK
LED SW
PICKUP ASSY KSS-210A
MECHANISM KSM-2101ABM
LD MON
FOCUS COIL
TRACKING COIL
PH401 GP1S53V
SNSR C.B
U/D SW C.B
CLOSE SW C.B
SW602 (OPEN SW)
OPEN SW C.B
M302 (TURN TABLE MOTOR)
MOTOR-1 C.B
M301 RF-500TB (TRAY LOADING MOTOR)
MOTOR-2 C.B
M3 (SPINDLE MOTOR)
M2 (SLED MOTOR)
SW (INSIDE LIMIT SW)
IC201 EQ AMP
IC201 (1/2) NJM 4580 E
IC201 (2/2) NJM 4580 E
LED C.B
LED902, 905 SEL1810BM
LED903, 904 SEL1550GM
LED902~905 (CD TRAY LIGHTING)
FTI02
FROM B FRONT C.B CON104
TO A MAIN C.B WH501
SUGNAL MARK
AUDIO
33.8688MHZ

Đ ECHO/ĐSP C.B

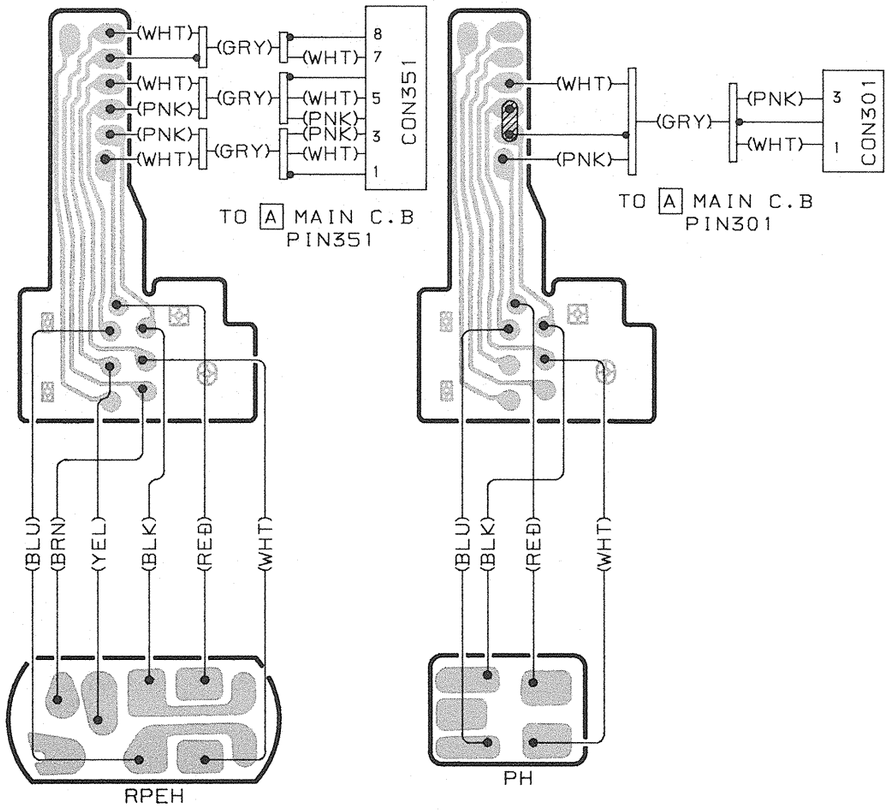




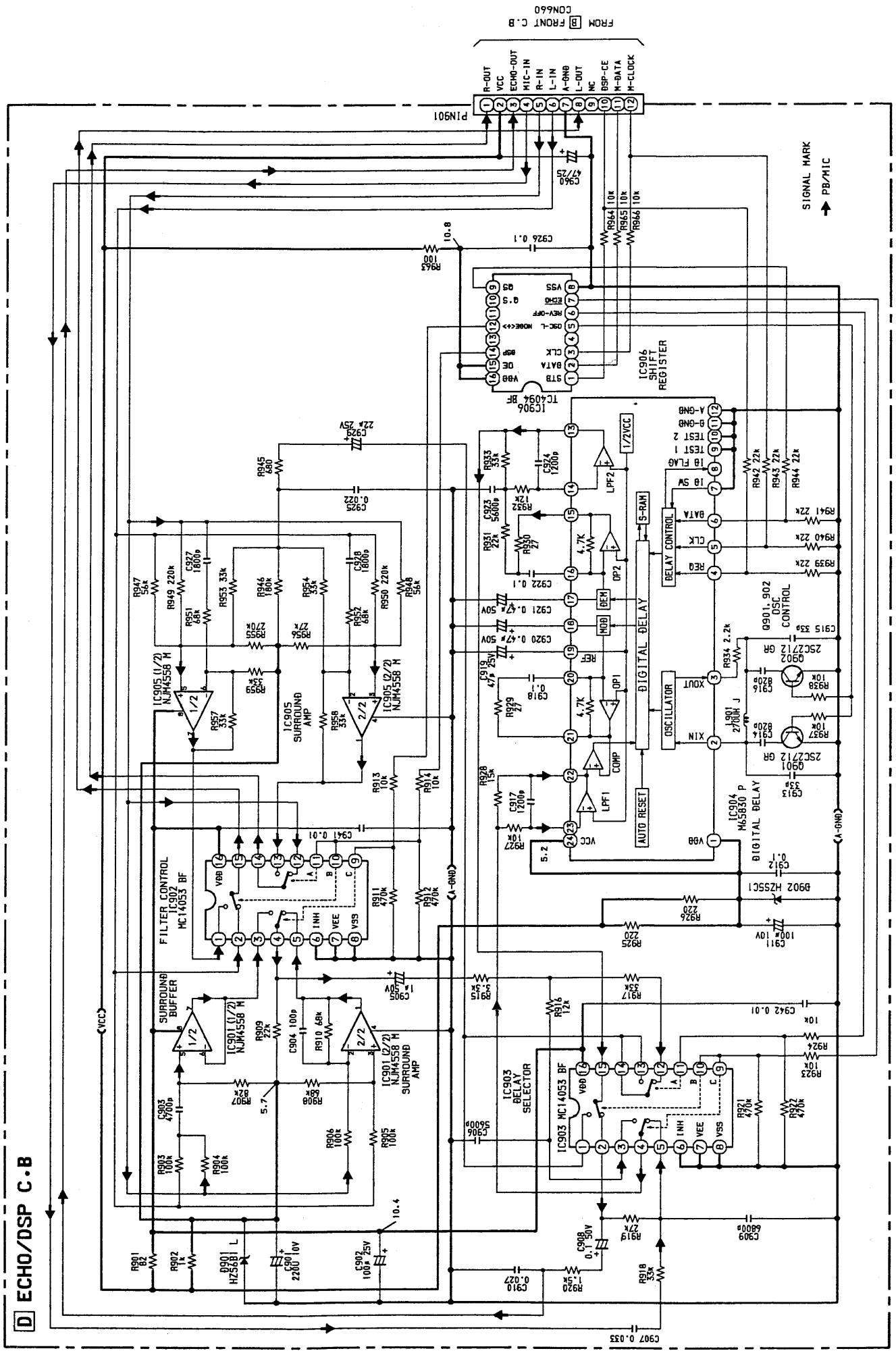
O ĐECK-1 C.B

P ĐECK-2 C.B

R RELAY-2 C.B Q RELAY-1 C.B



SCHEMATIC DIAGRAM – 5 (ECHO/DSP)



IC DESCRIPTION

IC,LC866432V－5492, －5506

Pin No.	Pin Name	I/O	Description
1	O-PLL CE	O	PLL IC chip enable.
2	O-KC/CE	O	Key control IC M65840 data latched strobe output.
3	O-M/STB	O	Main shift register (IC602, 603) data latch strobe output.
4	O-M/DATA	O	Main shift register (IC602, 603), PLL/key control/DSP related data output.
5	O-M/CLK	O	Main shift register (IC602, 603), PLL/key control/DSP related clock output.
6	I-$\overline{\text{HOLD}}$	I	Power failure detected input. "L" to stop clock and maintain memory.
7	$\overline{\text{RESET}}$	I	Reset input.
8	I-$\overline{\text{STEREO}}$	I	Tuner stereo detected input.
9	I-$\overline{\text{TUNE/IFC}}$	I	Tuner $\overline{\text{SD}}$ detected input. IF count serial data input.
10	VSS1	—	GND.
11, 12	CF1, 2	—	5.76MHz oscillator circuit.
13	VDD1	—	Power supply input.
14～16	I-KEY1～3	I	Key input. (A/D)
17	I-CD/SW	I	CD mechanical switch A/D converter input.
18	I-CD/DISH	I	CD turntable photo sensor A/D converter input.
19	I-MS	I	Deck music sensor signal input.
20	I-SPEANA	I	A/D input for spectrum analyzer display.
21	I-MIC	I	Microphone input for auto VF display.
22	I-TM BASE	I	Reference clock input for timer watch.
23	I-CD/SENSE	I	CD IC control SENS input.
24	I-$\overline{\text{RMC}}$	I	System remote control signal input.
25～36	G12～G1	O	FL grid output G12～G1.
37	P22	O	FL segment output P22.
38	P21/O-SPEANA A	O	FL segment output P21, spectrum analyzer band switch output (A).
39	P20/O-SPEANA B	O	FL segment output P20, spectrum analyzer band switch output (B).
40	P19/O-SPEANA C	O	FL segment output P19, spectrum analyzer band switch output (C).
41	VDD2	—	Power supply input.
42	-VP	—	Power supply input (-34.5V) for FL display.
43	P18/CST1	I/O	FL segment output P18, DECK1 cassette detect switch data input.
44	P17/AUTO1	I/O	FL segment output P17, DECK1 auto stop signal input.
45	P16/CAM1	I/O	FL segment output P16, DECK1 cam switch data input.
46	P15/CSM2	I/O	FL segment output P15, DECK2 cam switch data input.
47	P14/AUTO2	I/O	FL segment output P14, DECK2 auto stop data input.
48	P13/CST2	I/O	FL segment output P13, DECK2 cassette detect switch data input.
49	P12/REA2	I/O	FL segment output P12, DECK2 side-A record OK switch data input.
50	P11/REB2	I/O	FL segment output P11, DECK2 side-B record OK switch data input.
51	P10/FM-WIDE	I/O	FL segment output P10, FM wide mode data input to diode.
52	P1/AM-ST	I/O	FL segment output P1, AM stereo mode data input to diode.
53	P2/AM10K	I/O	FL segment output P2, AM 10kHz step data input to diode.

Pin No.	Pin Name	I/O	Description
54	P3/LW	I/O	FL segment output P3, LW mode data input to diode.
55	P4/SW	I/O	FL segment output P4, SW mode data input to diode.
56	P5/BBE	I/O	FL segment output P5, BBE mode data input to diode.
57	P6/DSP	I/O	FL segment output P6, DSP data input to diode.
58	P7/K-CON	I/O	FL segment output P7, key control data input to diode.
59	P8/CDG	I/O	FL segment output P8, CDG data input to diode.
60	P9/OIRT	O	FL segment output P9.
61	O-CLOSE	O	CD tray close data output.
62	O-OPEN	O	CD tray open data output.
63	O-DI/R	O	CD turntable reverse rotation output.
64	O-DI/F	O	CD turntable forward rotation output.
65	O-$\overline{\text{POWER}}$	O	System power supply $\overline{\text{ON}}$/OFF output.
66	O-$\overline{\text{SOL1}}$	O	DECK1 solenoid output.
67	O-$\overline{\text{SOL2}}$	O	DECK2 solenoid output.
68	O-$\overline{\text{MOTOR}}$	O	DECK motor output.
69	O-$\overline{\text{KEY. SCAN}}$	O	Switch scan timing output.
70	O-F/STB	O	Front shift register (IC401~403), data latch strobe output.
71	O-F/CLK	O	Front shift register (IC401~403), data transfer clock output.
72	O-F/DATA	O	Front shift register (IC401~403), data output.
73	VSS2	—	GND.
74	O-DSP/CE	O	DSP related data latch strobe output.
75	O-CD/DATA	O	CD IC control data output.
76	O-CD/XLT	O	CD IC control data latch output.
77	O-CD/CLK	O	CD IC control data transfer clock output.
78	I-CD/SQ. DATA	O	CD SUB-Q data input.
79	O-CD/SQ. CLK	O	Clock output for CD SUB-Q input data.
80	O-MUTE	O	System mute output.

IC,CXD2518Q

Pin No.	Pin Name	I/O	Description
1	SCOR	O	1H when the subcode sync S0 or S1 is detected. (Not used)
2	SBSO	O	SUBP~W serial output. (Not used)
3	EXCK	I	Clock input for SBSO read out.
4	SQSO	O	SUBQ 80-bit serial output.
5	SQCK	I	Clock input for SQSO read out.
6	MUTE	I	"H" to mute. "L" to cancel. Connected to GND.
7	SENS	O	SENS signal output to CPU (IC201).
8	XRST	I	System reset. "L" to reset.
9	DATA	I	Serial data input from CPU (IC201).
10	XLAT	I	Latch input from CPU (IC201). Latching serial data at fall down.
11	CLOK	I	Clock input from CPU (IC201) to transfer serial data.
12	VSS	—	GND.
13	SEIN	I	SENS input from SSP (CXA1782BQ).
14	CNIN	I	Numbers of track jump are counted and input.
15	DATO	O	Serial data output to SSP (CXA1782BQ).
16	XLTO	O	Serial data latched output to SSP (CXA1782BQ). Latched at fall down edge.
17	CLKO	O	Clock input from SSP (CXA1782BQ) to transfer serial data.
18	TEST2	I	TEST. (Connected to +5V)
19~21	SPOB~D	I	Input from INSIDE LIMIT switch (SW1).
22	XLON	O	LC7870E mute control output. (Not used)
23	FOK	I	Focus OK input pin. Used for SENS output and servo auto sequencer.
24	MON	O	Spindle motor ON/OFF control output.
25	MDP	O	Spindle motor servo control output.
26	MDS	O	Spindle motor servo control output. (Not used)
27	LOCK	O	GFS is sampled by 460Hz. H output when GFS is H. L output when GFS is L for 8 consecutive times.
28	TEST1	I	TEST. (Connected to GND)
29	FILO	O	Filter output to master PLL. (slave=digital PLL)
30	FILI	I	Filter input to master PLL.
31	PCO	O	Charge-pump output to master PLL.
32	VDD	—	Power supply input. (+5V)
33	AVSS1	—	GND.
34	CLTV	I	VCO control voltage input to master PLL.
35	AVDD1	—	Power supply input. (+5V)
36	RF	I	EFM signal input.
37	BIAS	I	Constant current input to asymmetry correction circuit.
38	ASYI	I	Comparate voltage input to asymmetry correction circuit.
39	ASYO	O	EFM full swing output. (L=VSS, H=VDD)
40	ASYE	I	L: asymmetry correction OFF. H: asymmetry correction ON (connected to +5V)
41	WDCK	O	D/A interface, word clock (2Fs) for 48-bit slot. (Not used)
42	LRCK	O	D/A interface, LR clock (Fs) for 48-bit slot.

Pin No.	Pin Name	I/O	Description
43	LRCKI	I	LR clock input to DAC. (48-bit slot)
44	PCMD	O	D/A interface, serial data. (2's complement, MSB first)
45	PCMDI	I	Audio data input to DAC. (48-bit slot)
46	BCK	O	D/A interface, bit clock.
47	BCKI	I	Bit clock input to DAC. (48-bit slot)
48	GTOP	O	GTOP output. (Not used)
49	XUGF	O	XUFG output. (Not used)
50	XPCK	O	XPLCK output. (Not used)
51	GFS	O	GFS output. (Not used)
52	RFCK	O	RFCK output. (Not used)
53	VSS	—	GND.
54	C2PO	O	C2PO output. (Not used)
55	XROF	O	XRAOF output. (Not used)
56	MNT3	O	MNT3 output. (Not used)
57	MNT1	O	MNT1 output. (Not used)
58	MNT0	O	MNT0 output. (Not used)
59	FSTT	O	Pins-73 and -74 divided-by 2/3 output. (Not used)
60	C4M	O	4.2336MHz output. (Not used)
61	DOUT	O	Digital Out connector output signal.
62	EMPH	O	H when the playback disc has emphasis. "L" when it does not.
63	EMPHI	I	DAC emphasis ON/OFF. "H" when ON. "L" when OFF
64	WFCK	O	WFCK (WRITE FRAME CLOCK) output. (Not used)
65	ZEROL	O	No sound data detection output. H (L-ch) when no sound data is detected. (Not used)
66	ZEROR	O	No sound data detection output. H (R-ch) when no sound data is detected. (Not used)
67	DTSI	I	TEST for DAC. (Connected to GND)
68	VDD	—	Power supply input. (+5V)
69	LPWM	O	L-ch PWM output. (normal polarity)
70	NLPWM	O	L-ch PWM output. (reversed polarity)
71	AVDD2	—	Power supply input to L-ch PWM driver. (Connected to +5V)
72	AVDD3	—	Power supply input to X'tal. (Connected to +5V)
73	XTAI	I	X'tal input to 33.8688MHz oscillator circuit.
74	XTAO	O	33.8688MHz X'tal oscillator circuit output.
75	AVSS1	—	Power supply input to X'tal. (Connected GND)
76	AVSS2	—	Power supply input to PWM driver. (Connected to GND)
77	NRPWM	O	R-ch PWM output. (reversed phase)
78	RPWM	O	R-ch PWM output. (normal phase)
79	DTS2	I	TEST-2 for DAC. (Connected to GND)
80	DTS3	I	TEST-3 for DAC. (Connected to GND)

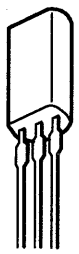
IC,CXA1782BQ

Pin No.	Pin Name	I/O	Description
1	FEO	O	Focus error amplifier output pin. This pin is connected to the FZC comparator input internally.
2	FEI	I	Focus error input pin.
3	FDFCT	I	Capacitor connection pin for time constant used when there is defect.
4	FGD	I	Corrects the focus servo high frequency gain.
5	FLB	I	This is a pin where the time constant is externally connected to raise the low frequency gain of the focus servo.
6	FEO	O	Focus drive output.
7	FEM	I	Focus amplifier inverted input pin.
8	SRCH	I	This is a pin where the time constant is externally connected to generate the focus search waveform.
9	TGU	I	This is a pin where the selection time constant is externally connected to set the tracking servo the high frequency gain.
10	TG2	I	This is a pin where the selection time constant is externally connected to set the tracking high frequency gain.
11	FSET	I	Pin for setting peak of the phase compensator of the focus tracking.
12	TAM	I	Tracking amplifier inverted input pin.
13	TAO	O	Tracking drive output.
14	SLP	I	Sled amplifier non-inverted input pin.
15	SLM	I	Sled amplifier inverted input pin.
16	SLO	O	Sled drive output.
17	ISET	I	The current which determines height of the focus search, track jump and sled kick is input.
18	VCC	—	+ 5 V power supply pin.
19	CLK	I	Serial data transfer clock input from CPU (CXD2518Q).
20	XLT	I	Latch input from CPU (CXD2518Q).
21	DATA	I	Serial data input from CPU (CXD2518Q).
22	XRST	I	Reset input pin. Reset at L.
23	COUT	O	Signal output to count the number of tracks.
24	SENS	O	FZC, DFCT, TZC, Gain or BAL is output depending on the command from CPU (CXD2518Q).
25	FOK	O	Output pin of the focus OK comparator.
26	CC2	O	Input pin where the DEFECT bottom hold output is capacitance coupled.
27	CC1	I	DEFECT bottom hold output pin.
28	CB	I	This is a pin where the DEFECT bottom hold capacitor is connected.
29	CP	I	This is a pin where the MIRR hold capacitor is connected and MIRR comparator non-inverted signal is input.
30	RFI	I	Input pin where the RF summing amplifier output is capacitance coupled.
31	RFO	O	RF summing amplifier output pin. (TP1)
32	RFM	I	RF summing amplifier inverted input pin. Gain of RF amplifier is determined by the resistor connected between RFO and this pin.
33	LD	O	APC amplifier output pin.

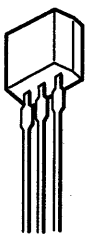
Pin No.	Pin Name	I/O	Description
34	PHD	I	APC amplifier input pin.
35~36	PHD1~2	I	RF I-V amplifier inverted input pin. These pins are connected to the A+C and B+D pins of the optical pickup.
37	BIAS	I	Bias adjustment pin of the non-inverted side of the focus error amplifier.
38~39	F~E	I	F and E IV amplifier non-inverted input pins. These pins are connected to the F and E of the optical pickup.
40	EI	—	Gain adjustment pin of the I-V amplifier E.
41	VEE	—	GND connection pin
42	TEO	O	Tracking error amplifier output pin. E-F signal is output.
43	LPFI	I	BAL adjustment comparator input pin. (Not used.)
44	TEI	I	Tracking error input pin.
45	ATSC	I	Window comparator input pin for detecting ATSC.
46	TZC	I	Tracking zero-cross comparator input pin.
47	TDFCT	I	Capacitor connection pin for the time constant used when there is defect.
48	VC	O	DC voltage output pin of VREF. (VDD/2)

TRANSISTOR ILLUSTRATION

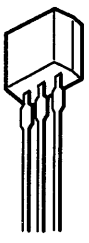
2SA952 2SC3266
2SA1015 2SC3331
2SA1296 2SD655
2SA1318 KTA1266
2SC1815 KTC3198
2SC2001



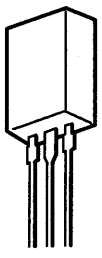
2SK246



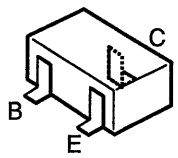
2SA933S
2SC1740
DTA114YS
DTA144ES
DTC114YS



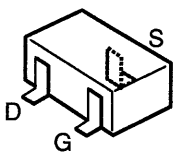
2SK365



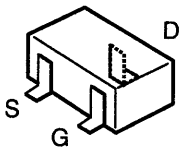
2SB1329R



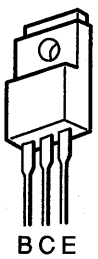
2SA1162 DTA144EK
2SC2712 DTA144WK
2SC2714 DTC114YK
2SC3326 DTC143XK
DTA114TK DTC144EK
DTA143EK



2SK302



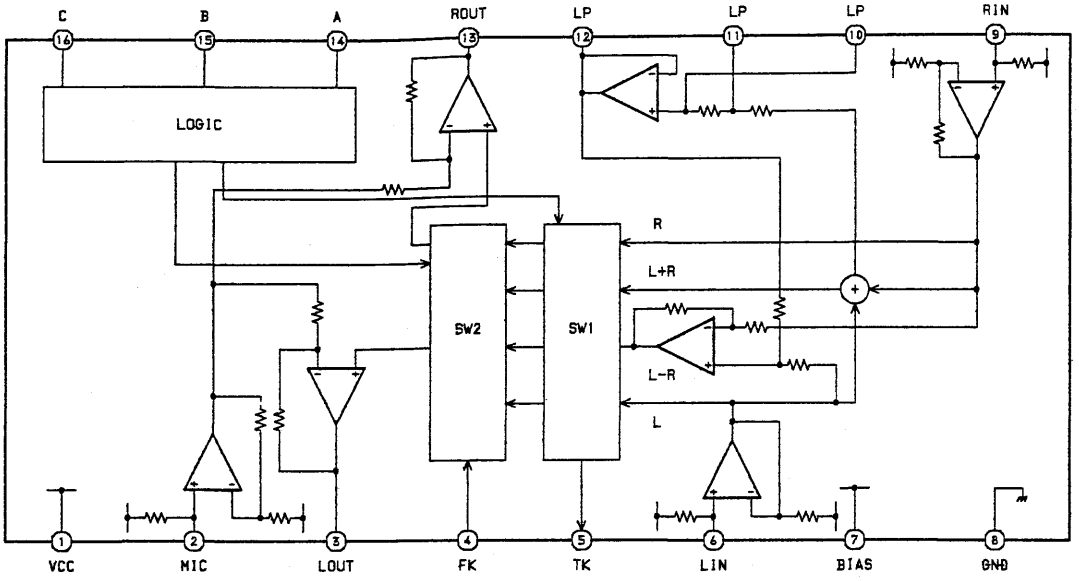
2SK543



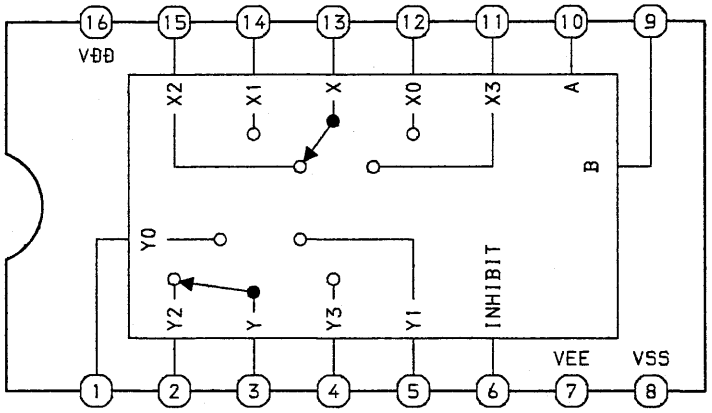
2SB1370

IC BLOCK DIAGRAM

IC,BA3837



IC,TC4052

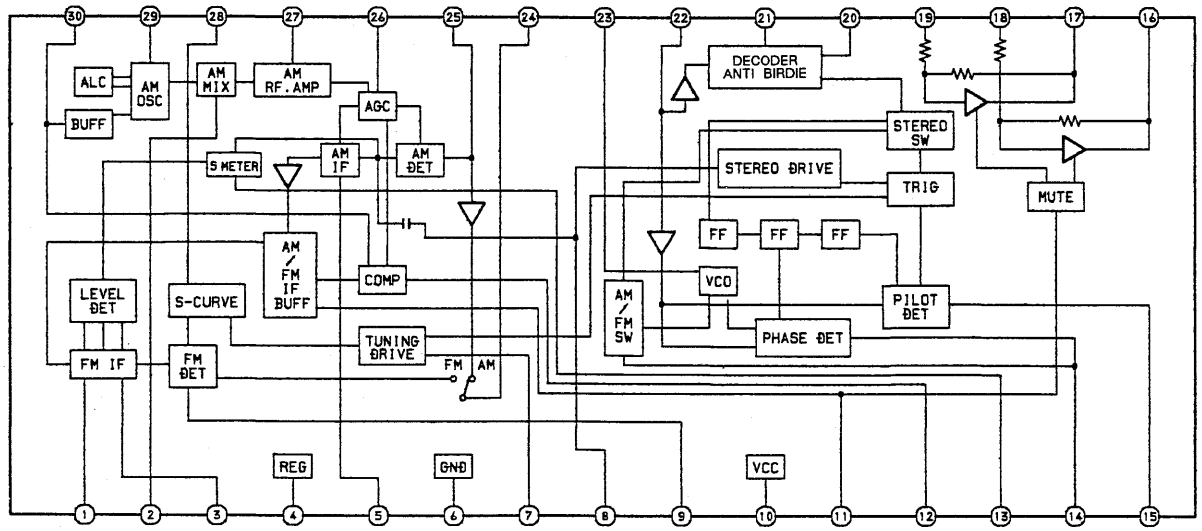


TRUTH TABLE

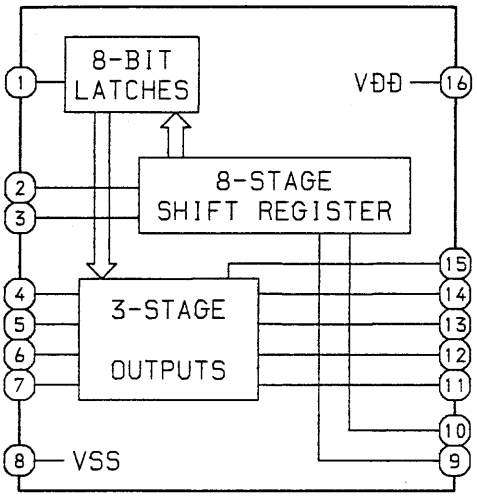
CONTROL INPUTS			ON SWITCH	
INHIBIT	B	A		
L	L	L	Y0	X0
L	L	H	Y1	X1
L	H	L	Y2	X2
L	H	H	Y3	X3
H	X	X	—	—

L:LOW LEVEL
H:HIGH LEVEL
H:IRRELEVANT

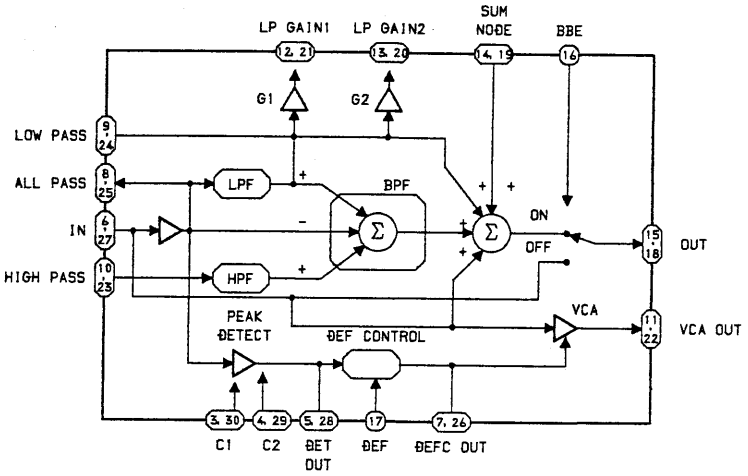
IC,LA1836



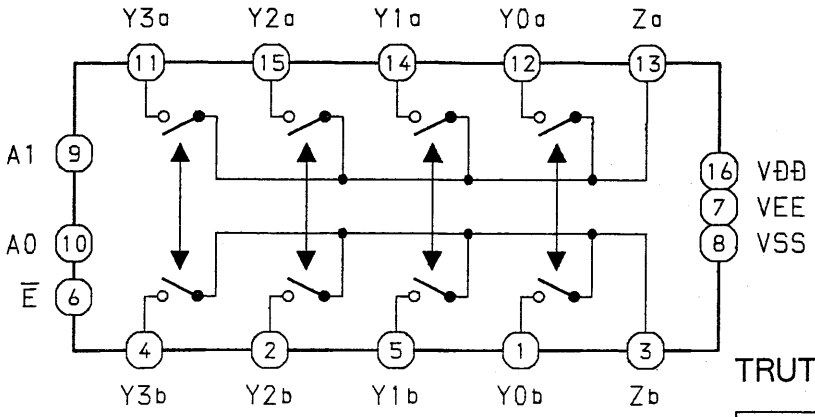
IC,TC4094BP



IC,XR – 1071CP



IC,GD4052



PIN NAMES

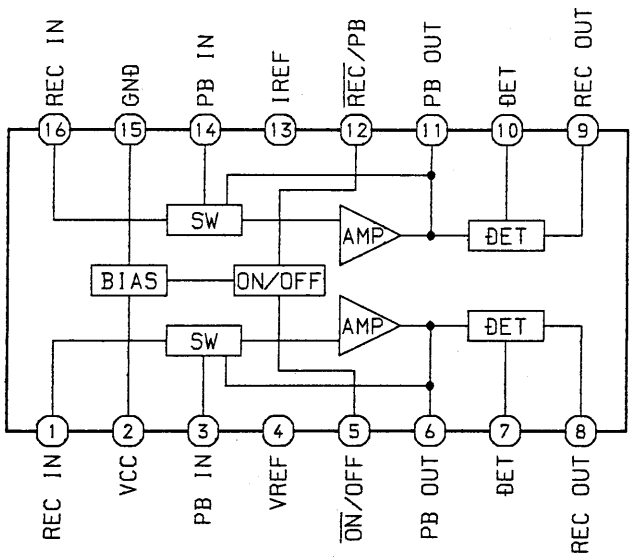
Y0a - Y3a	Independent Inputs/Outputs
Y0b - Y3b	Independent Inputs/Outputs
A1, A1	Address Inputs
$\overline{E}$	Enable Input (Active LOW)
Za, Zb	Common Input/Output

TRUTH TABLE

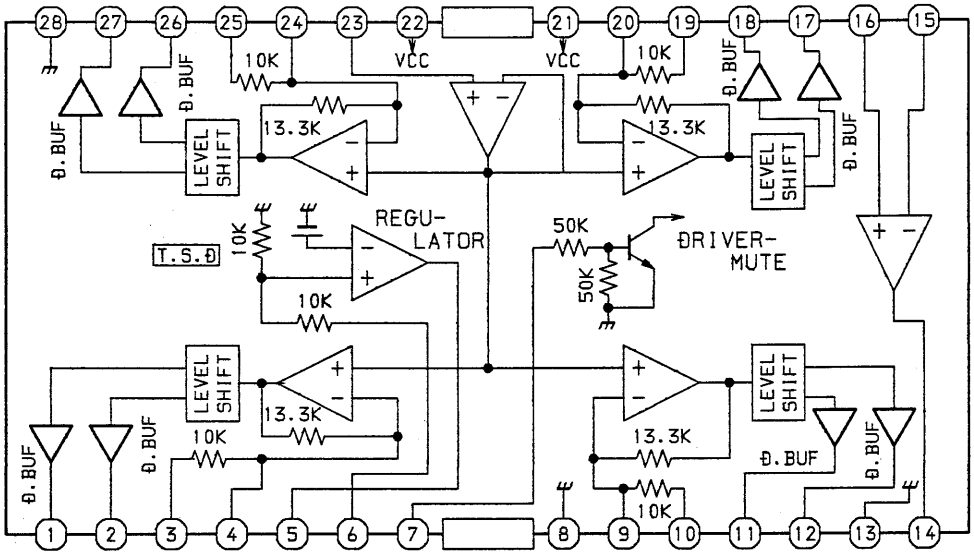
INPUTS			CHANNELS			
E	A1	A0	Y0-Z	Y1-Z	Y2-Z	Y3-Z
L	L	L	ON	OFF	OFF	OFF
L	L	H	OFF	ON	OFF	OFF
L	H	L	OFF	OFF	ON	OFF
L	H	H	OFF	OFF	OFF	ON
H	X	X	OFF	OFF	OFF	OFF

L:LOW Level, H:HIGH Level, X:Don't care

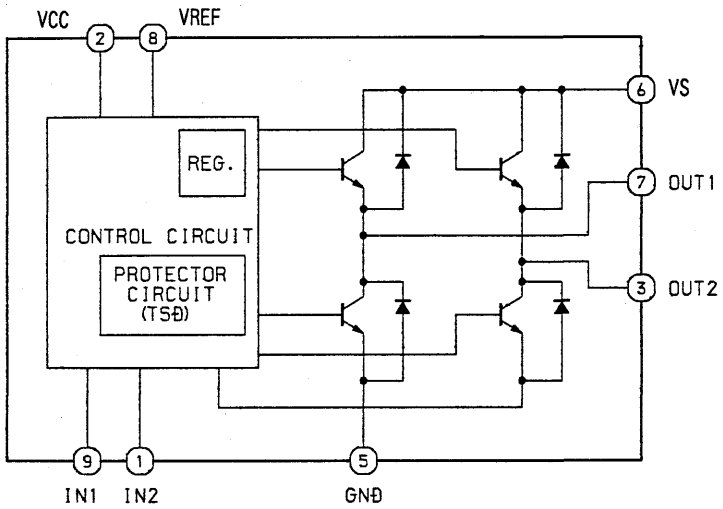
IC,HA12134A



IC, BA6397FP



IC, TA7291

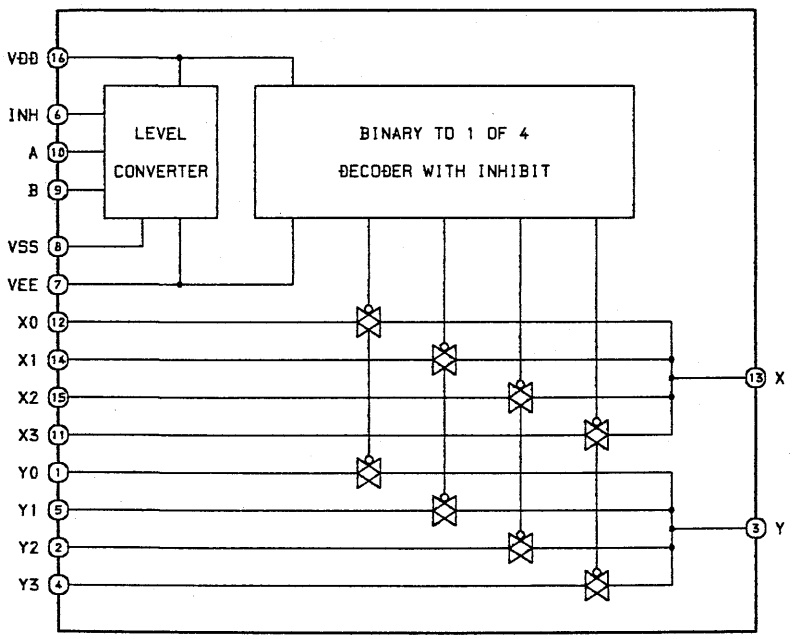


TRUTH TABLE

INPUT		OUTPUT		MOÐE
IN1	IN2	OUT1	OUT2	
0	0	∞	∞	STOP
1	0	H	L	CW
0	1	L	H	CCW
1	1	L	L	BRAKE

∞ : HI IMPEÐANCE
NOTE : INPUT "H" ACTIVE

IC, BU4052B

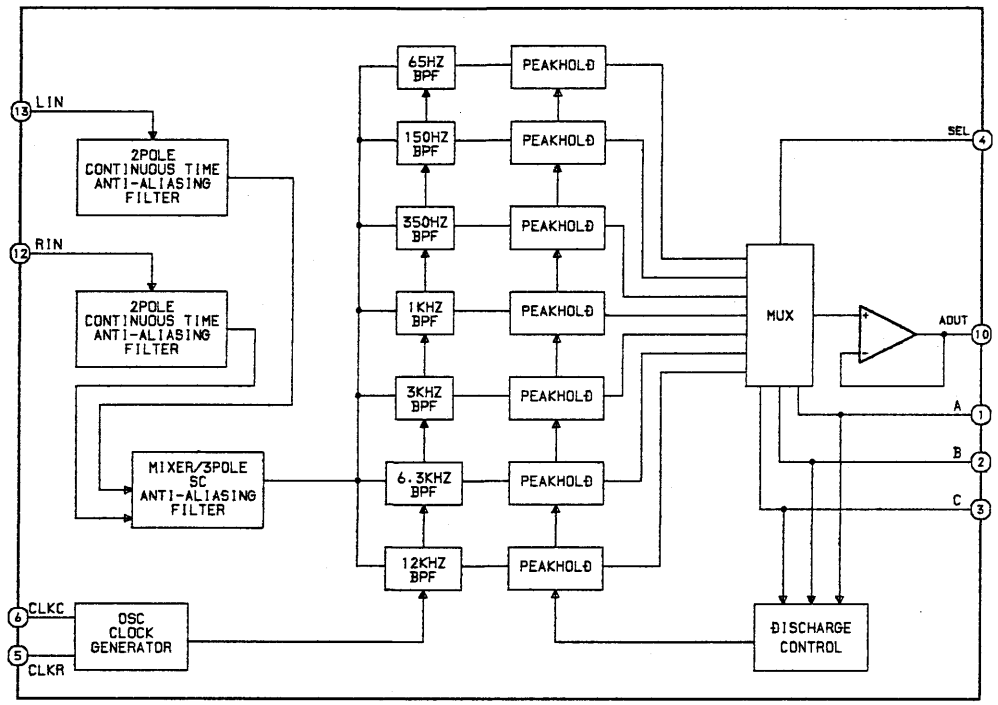


TRUTH TABLE

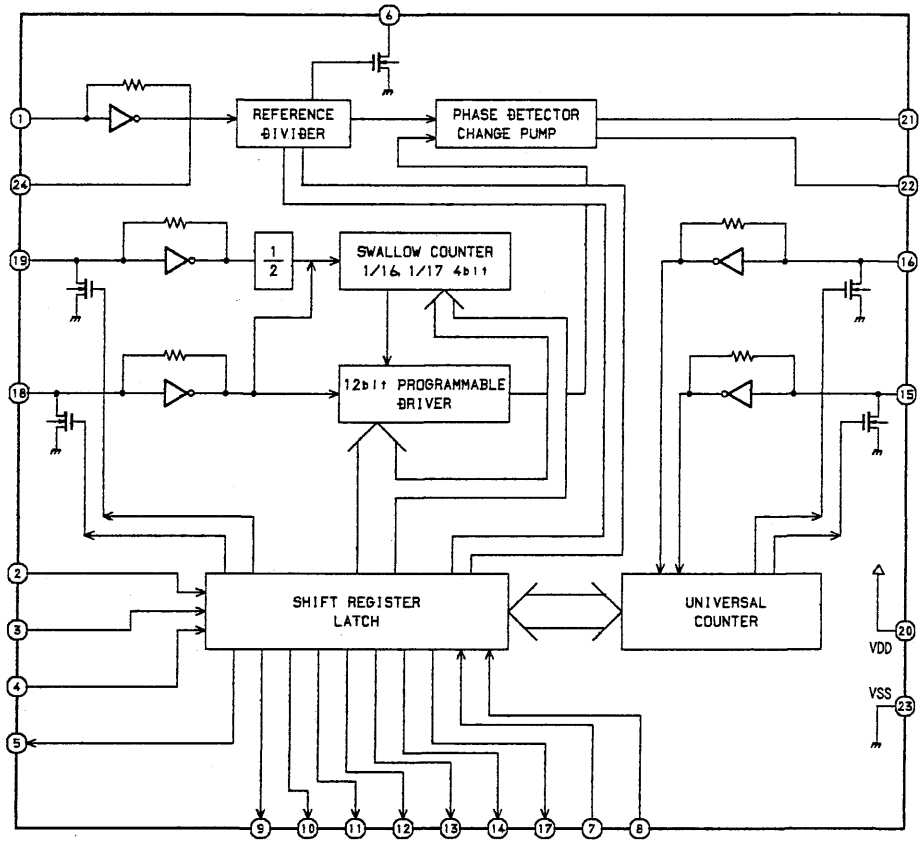
INHIBIT	A	B	ON SWITCH
L	L	L	X0 Y0
L	H	L	X1 Y1
L	L	H	X2 Y2
L	H	H	X3 Y3
H	X	X	NONE

X:ÐON'T CARE.

IC,XR1090

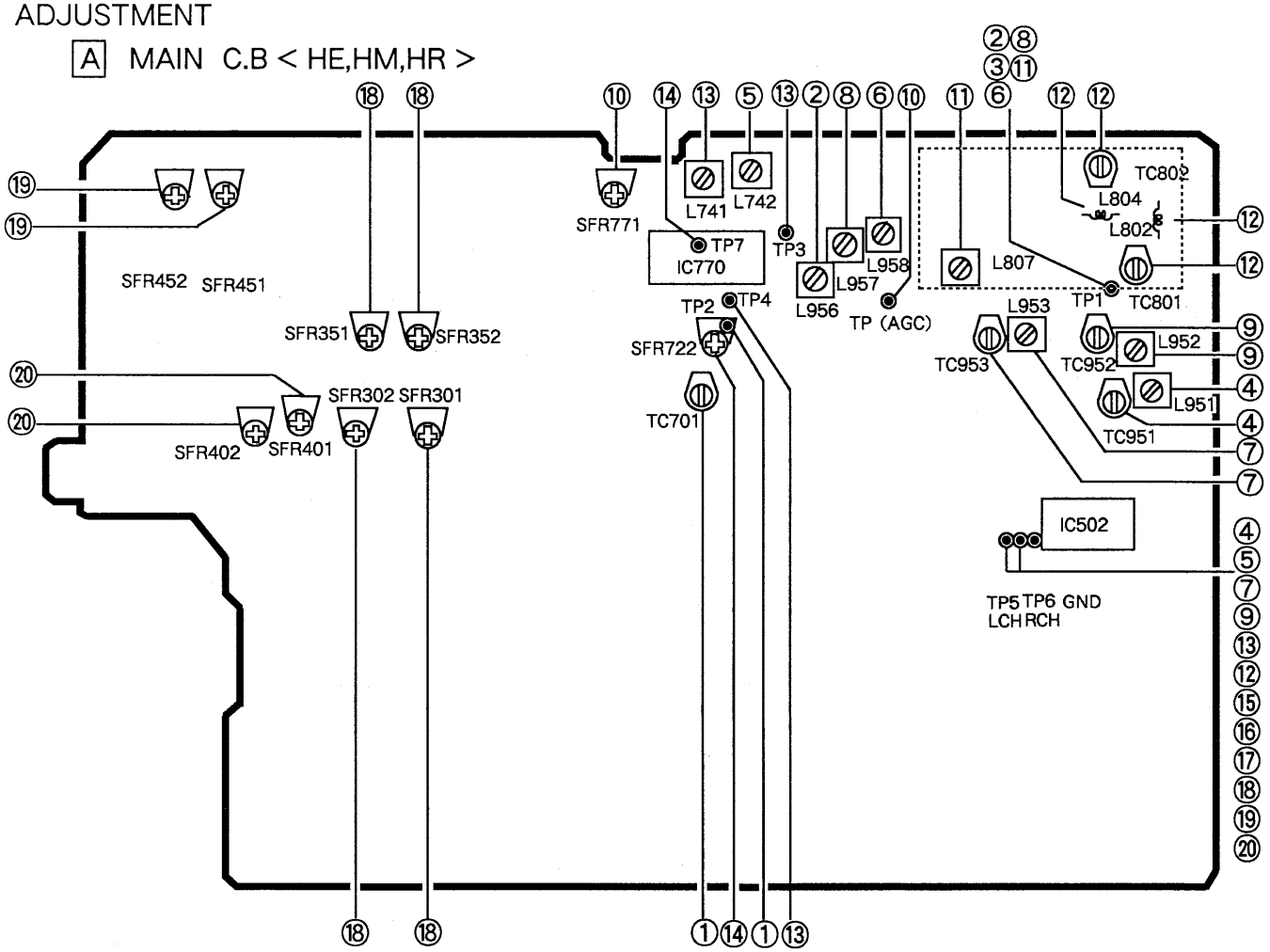


IC,LC7218

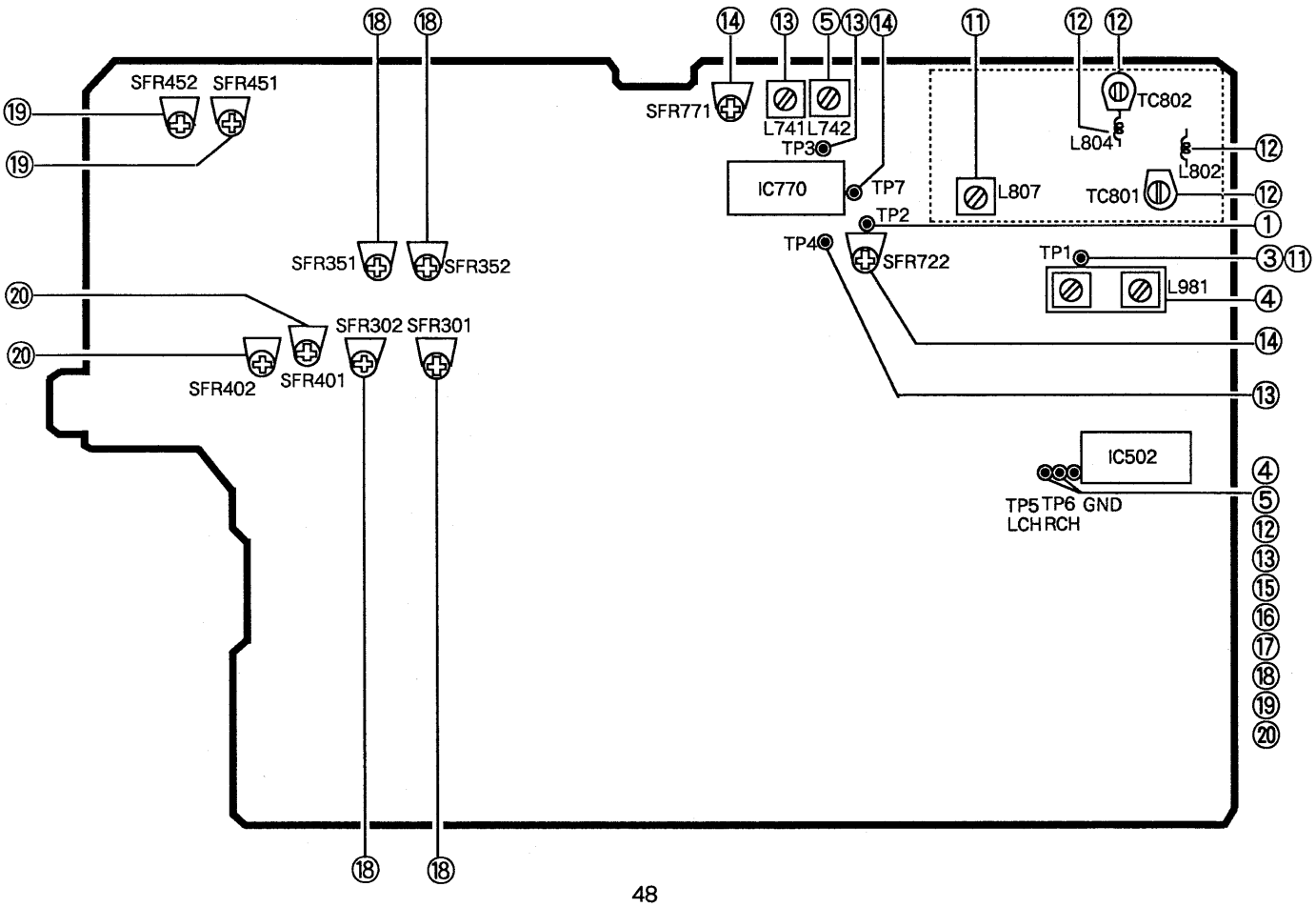


ADJUSTMENT

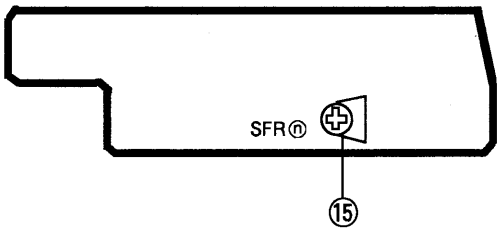
A MAIN C.B < HE,HM,HR >



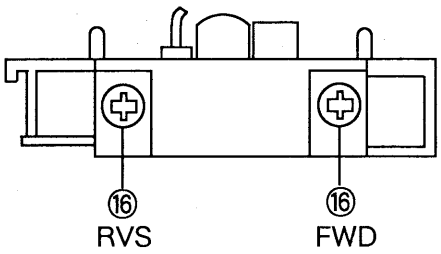
A MAIN C.B < LH >



P DECK2 C.B



DECK1 P, DECK2 R/P/E HEAD



①TUNER SECTION

1. Clock Frequency Adjustment
   Settings : • Test point : TP2 (CLK IC770 pin30)
   • Adjustment location : TC701
   Method : Set to AM 1710kHz and adjust TC701 so that the test point becomes 2160kHz ± 0.01kHz.

2. AM VT Adjustment < HE,HR,HM >
   Settings : • Test point : TP1 (VT)
   • Adjustment location : L956
   Method : Set to AM 1710kHz adjust L956 so that the test point becomes 8.5V ± 0.05V. Then set to AM 530kHz and check that the test point is more than 0.4V.

3. AM VT Check < LH >
   Settings : • Test point : TP1 (VT)
   Method : Set to AM 1710kHz and check that the test point is 6.5 ± 1.0V.

4. AM Tracking Adjustment
< HE,HR,HM >
   Settings : • Test point : TP5,TP6
   • Adjustment location :
   L951 ····· 600kHz
   TC951 ····· 1400kHz
   Method : Set up TC951 to center before adjustment. The level at 600kHz is adjusted to MAX by L951. Then the level at 1400kHz is done by TC951.
< LH >
   Settings : • Test point : TP5,TP6
   • Adjustment location : L981
   Method : Set to AM 1000kHz and adjust L981 that the test point becomes maximum.

5. AM IF Adjustment
   Settings : • Test point : TP5,TP6
   L742 ····· 450kHz

6. SW − 2 VT Adjustment < HE,HR,HM >
   Settings : • Test point : TP1 (VT)
   • Adjustment location : L958
   Method : Set to SW − 2 21.85MHz adjust L958 so that the test point becomes 8.0V ± 0.05V.

7. SW − 2 Tracking Adjustment < HE,HR,HM >
   Settings : • Test point : TP5,TP6
   • Adjustment location :
   L953 ····· 9.5MHz
   TC953 ····· 21.85MHz
   Method : Set up TC953 to center before adjustment. The level at 9.5MHz is adjusted to MAX by L953 .Then the level at 21.85MHz is done by TC953.

8. SW − 1 VT adjustmant < HE,HR,HM >
   Settings : • Test point : TP1 (VT)
   • Adjustment location : L957
   Method : Set to SW − 1 7.3MHz and adjust L957 so that the test point becomes 7.5V ± 0.05V.

9. SW − 1 Tracking Adjustment < HE,HR,HM >
   Settings : • Test point : TP5,TP6
   • Adjustment location :
   L952 ····· 3.2MHz
   TC952 ····· 7.3MHz
   Method : Set up TC952 to center before adjustment. The level at 3.2MHz is adjusted to MAX by L952. Then the level at 7.3MHz is done by TC952.

10. AGC Adjustment < HE,HR,HM >
   Settings : • Test point : TP (AGC)
   • Adjustment location : SFR771
   • Input signal : 21.85MHz 60dB
   Method : Set to SW − 2 21.85MHz adjust SFR771 so that the test point becomes 1.6V ± 0.02V.

11. FM VT Adjustment

Settings : • Test point : TP1 (VT)
• Adjustment location : L807

Method : Set to FM 87.5MHz and adjust L807 so that the test point becomes 1.7V ± 0.05V.

12. FM Tracking Adjustment

Settings : • Test point : TP5,TP6
TC801,TC802 ····· 108MHz
L802,L804 ····· 87.5MHz

13. DC Balance/MONO Distortion Adjustment

Settings : • Test point : TP3,TP4 (DC balance)
TP5,TP6 (Distortion)
• Adjustment location : L741
• Input level : 54dB

Method : Set to FM 98.0MHz and adjust L741 so that the voltage between TP3 and TP4 becomes 0V ± 0.04V.
Next check that the distortion becomes less than 0.8 %.

14. Auto stop Level Adjustment

FM

Settings : • Test point : TP7
• Adjustment location : SFR722
• Input level : 18dB

Method : Set to FM 98.0MHz and adjust voltage low (about 0.01V) by SFR722. After that voltage high (about 7.0V) out by 2dB down.

AM < only LH >

Settings : • Test point : TP7
• Adjustment location : SFR771
• Input level : 55dB

Method : Set to AM 1000kHz and adjust voltage low (about 0.01V) by SFR771. After that voltage high (about 7.0V) out by 2dB down.

TAPE SECTION

15. Tape Speed Adjustment

Settings : • Test tape : TTA-100
• Test point : TP5,TP6
• Adjustment location : SFR ⓝ

Method : Play back the test tape DECK II and adjust SFR ⓝ so that the frequency counter reads 3000Hz ± 5Hz.

16. Head Azimuth Adjustment

Settings : • Test tape : TTA-310
• Test point : TP5,TP6
• Adjustment location : Head azimuth adjustment screw

Method : Play back the 10kHz signal of the test tape and adjust screw so that the output becomes maximum. Next, perform on each FWD PLAY and REV PLAY mode.

17. PB Frequency Response Check

Settings : • Test tape : TTA-310
• Test point : TP5,TP6

Method : Play back the 315Hz and 10kHz signals of the test tape and check that the output ratio of the 10kHz signal is with respect to that of the 315Hz signal is ± 2dB.

18. PB Sensitivity Adjustment

Settings : • Test tape : TTA-200
• Test point : TP5,TP6
• Adjustment location :
(I DECK) SFR301 (Lch)
SFR302 (Rch)
(II DECK) SFR351 (Lch)
SFR352 (Rch)

Method : Play back the test tape and adjust SFRs so that the output level of the test point is 300mV.

19. REC/PB Frequency Response Adjustment

Settings : • Test tape : TTA-601
• Test point : TP5,TP6
• Input signal : 1kHz/10kHz (LINE IN)
• Adjustment location : SFR451 (Lch)
SFR452 (Rch)

Method : Apply a 1kHz signal and REC mode. Then adjust OSC attenuator so that the output level at the TP5,TP6 is 21mV. Record and play back the 1kHz and 10kHz signals and adjust SFRs so that the output of the 10kHz signal is 0dB~+0.5dB with respect to that of the 1kHz signal.

20. REC/PB Sensitivity Adjustment

Settings : • Test tape : TTA-601
(TTA – 600)
• Test point : TP5,TP6
• Input signal : 1kHz (LINE IN)
• Adjustment location : SFR401 (Lch)
SFR402 (Rch)

Method : Apply a 1kHz signal and REC mode. Then adjust OSC attenuator so that the output level at the TP5,TP6 is 21mV. Record and play back the 1kHz signal and adjust SFRs so that the output is 21mV ± 0.5dB.

PRACTICAL SERVICE FIGURE

TUNER SECTION

< FM SECTION >

IHF Sensitivity :	4dB ± 6dB (87.5MHz)
(THD 3%)	2dB ± 6dB (98.0MHz)
	2dB ± 6dB (108.0MHz)
S/N 50dB Quieting sensitivity :	32dB ± 5dB (87.5/98.0/108.0MHz)
Signal to noise ratio :	More than 64dB (98.0MHz)
Distortion :	Less than 1.2% (98.0MHz)
Stereo separation :	More than 25dB (98.0MHz)
Intermediate frequency :	10.7MHz

< AM SECTION >

Sensitivity :	55dB ± 7dB (603kHz)
(S/N 20dB)	53dB ± 6dB (999kHz)
	53dB ± 6dB (1404kHz)
Distortion :	Less than 1.5% (999kHz)
Stereo separation :	More than 12dB (999kHz)
Intermediate frequency :	450kHz

< SW1 SECTION >

Sensitivity :	33dB ± 4dB (3.20MHz)
(S/N 20dB)	30dB ± 4dB (5.00MHz)
	28dB ± 4dB (7.30MHz)
Distortion :	Less than 1.5% (5.00MHz)
Intermediate frequency :	450kHz

< SW2 SECTION >

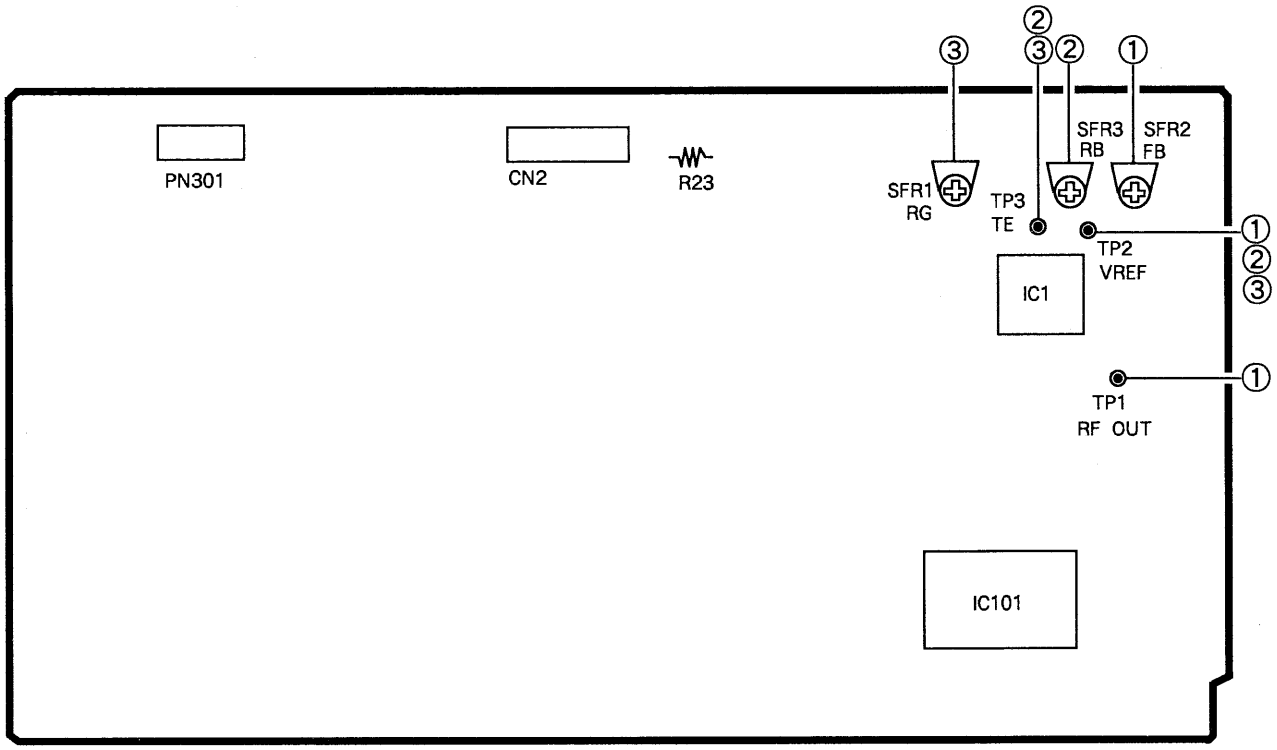
Sensitivity :	45dB ± 5dB (9.50MHz)
(S/N 20dB)	40dB ± 5dB (15.00MHz)
	31dB ± 5dB (21.85MHz)
Distortion :	Less than 1.5% (15.00MHz)
Intermediate frequency :	450kHz

TAPE SECTION

Tape speed :	3000Hz ± 1.5%
Wow & flutter :	Less than 0.4% (R.M.S)
Take-up torque :	30~55g-cm (FWD, REV)
F.F torque :	75~180g-cm
Rew torque :	75~180g-cm
Back tension :	2~7g-cm
PB Output level :	2.8V ± 1.5dB (SP OUT)
REC/PB Output level :	2.0V ± 2.0dB (SP OUT)
Distortion (REC/PB) :	Less than 2% (NORM)
Noise level (PB) :	Less than 200mV (DOLBY B NR OFF NORM, Vol MAX.)
Noise level (REC/PB) :	Less than 35mV (DOLBY B NR OFF NORM, SP OUT 2V)
Crosstalk :	More than 60dB (1kHz, 0VU)
Erasing ratio :	More than 60dB (125Hz)
Channel separation :	More than 40dB (1kHz, 0VU)
REC bias frequency :	85kHz
Test tape :	NORMAL TTA-601/600

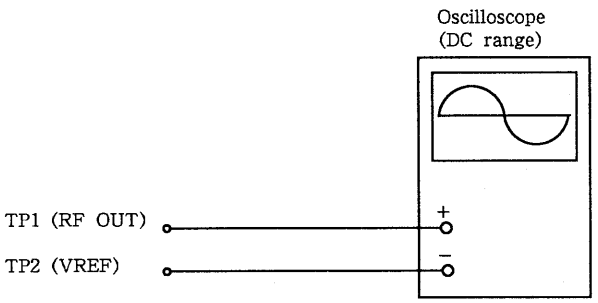
ADJUSTMENT

[C] 3CD C.B

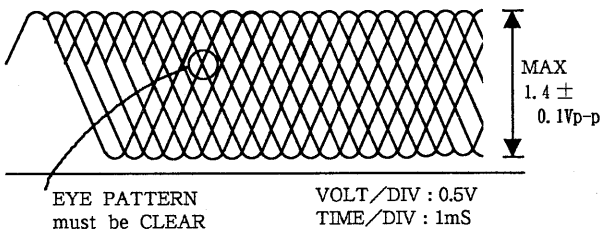


Note : Connect a probe (10 : 1) of the osilloscope or the frequency counter to a test point.

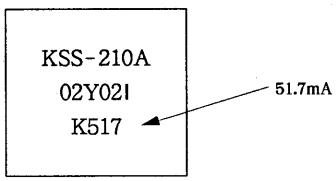
1. Focus Bias Adjustment
   Make the focus bias adjustment when replacing and repairing the optical block.



1) Connect an oscilloscope to the test points TP1 (RF) and TP2 (VREF).
2) Turn on the power switch.
3) Insert test disc TCD-782 (YEDS-18) and play back the second composition.
4) Adjust SFR2 so that RF signal of the test point TP1 (RF) is MAX and CLEARREST.

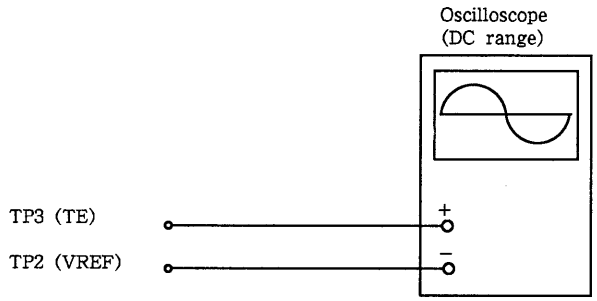


Note : The current of the laser signal can be checked with the voltages on both sides of R23 (10 Ω). The difference for the specified value shown on the lavel must be within ± 6.0mA.

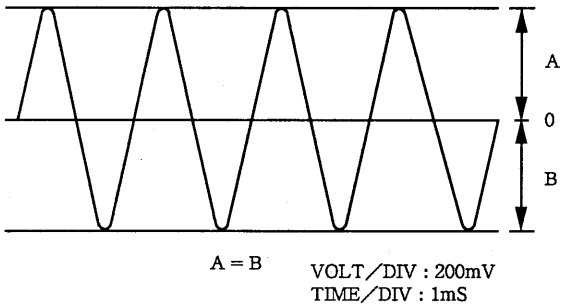


$$\text{Laser current } Iop = \frac{\text{Voltage across R23}}{10\ \Omega}$$

2. TRACKING Balance Adjustment



1) Connect an oscilloscope to the test points TP3 (TE) and TP2 (VREF).
2) Turn on the power switch.
3) Insert test disc TCD-782 (YEDS-18) and press the PLAY button.
4) Connect the intermediate point of SFR1 to TP2 (VREF).
5) Adjust SFR3 so that the waveform on the oscilloscope is vertically symmetrical as shown in the figure below.
6) After the adjustment is completed, remove the connected lead wires from the terminals.



3. TRACKING Gain Adjustment

A servo analyzer is necessary in order to perform this adjustment exactly. However, this gain has margin, so even if it is slightly off, there is no problem. Therfore, do not perform this adjustment.

Focus/tracking gain determines the pick-up follow-up (vertical and horizontal) relative to mechanical noise and mechinical shock when 2-axis device operates. However, as these reciprocate, the adjustment is at the point where both are satisfied.

- When gain is raised, the noise increases when the 2-axis device opearates.
- When gain is lowered, it is more susceptible to mechanical shock and skipping occurs more easily.

When gain adjustment is off, the symptoms below appear.

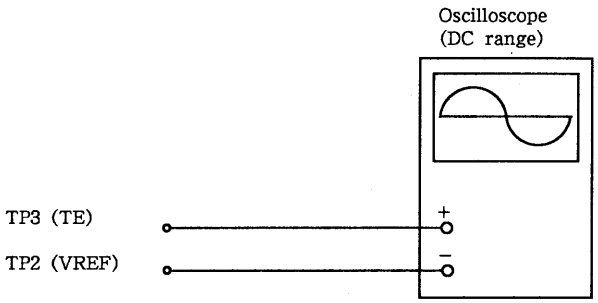
Symptoms \ Gain	(Focus)	Tracking
● The time until music starts becomes longer for STOP→▶PLAY or automatic selection (⏮ ⏭buttons pressed.) (Normally takes about 2 seconds.)	low	low or high
● Music does not start and disc continues to rotate for STOP→▶PLAY or automatic selection (⏮ ⏭buttons pressed.)	−	low
● Disc stops to rotate shortly after STOP→▶ PLAY.	low or high	−
● Sound is interrupted during PLAY. Or time counter display stops.	−	low
● More noises during the 2-axis device operation.	high	high

The following is simple adjustment method.

− Simple adjustment −

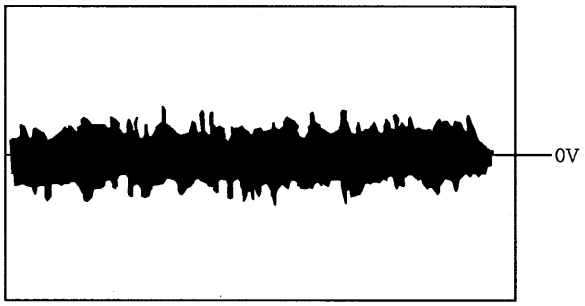
Note : Since exact adjustment cannot be performed, remember the positions of the controls before the performing the adjustment. If the positions after the simple adjustment are only a little different, return the controls to the original position.

Procedure



1) Keep the set horizontal.(If the set is not kept horizontally, this adjustment cannot be performed due to the gravity against the 2 − axis device.)
2) Insert test disc TCD-782 (YEDS-18) and play back the second composition.
3) Connect an oscilloscope to TP3 (TE) of the 3CD C.B

4) Adjust SFR1 so that the waveform appears as shown in the figure below.(tracking gain adjustment)

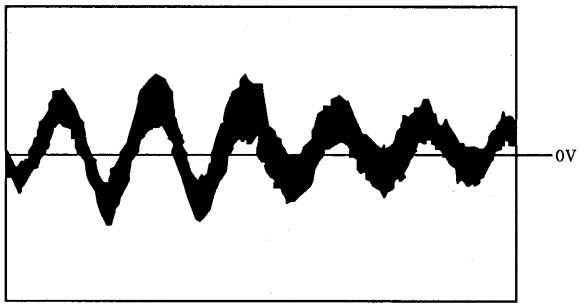


VOLT/DIV : 5mV
TIME/DIV : 1mS

● Incorrect example

Low tracking gain

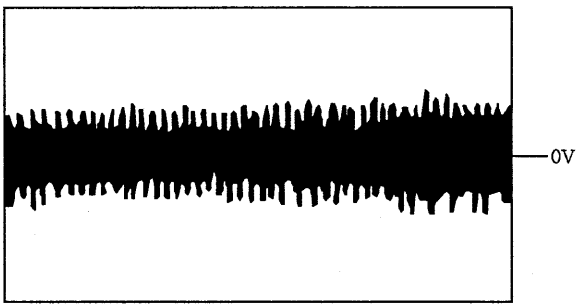
(The fundamental wave appears as compared with the waveform adjusted)



VOLT/DIV : 5mV
TIME/DIV : 1mS

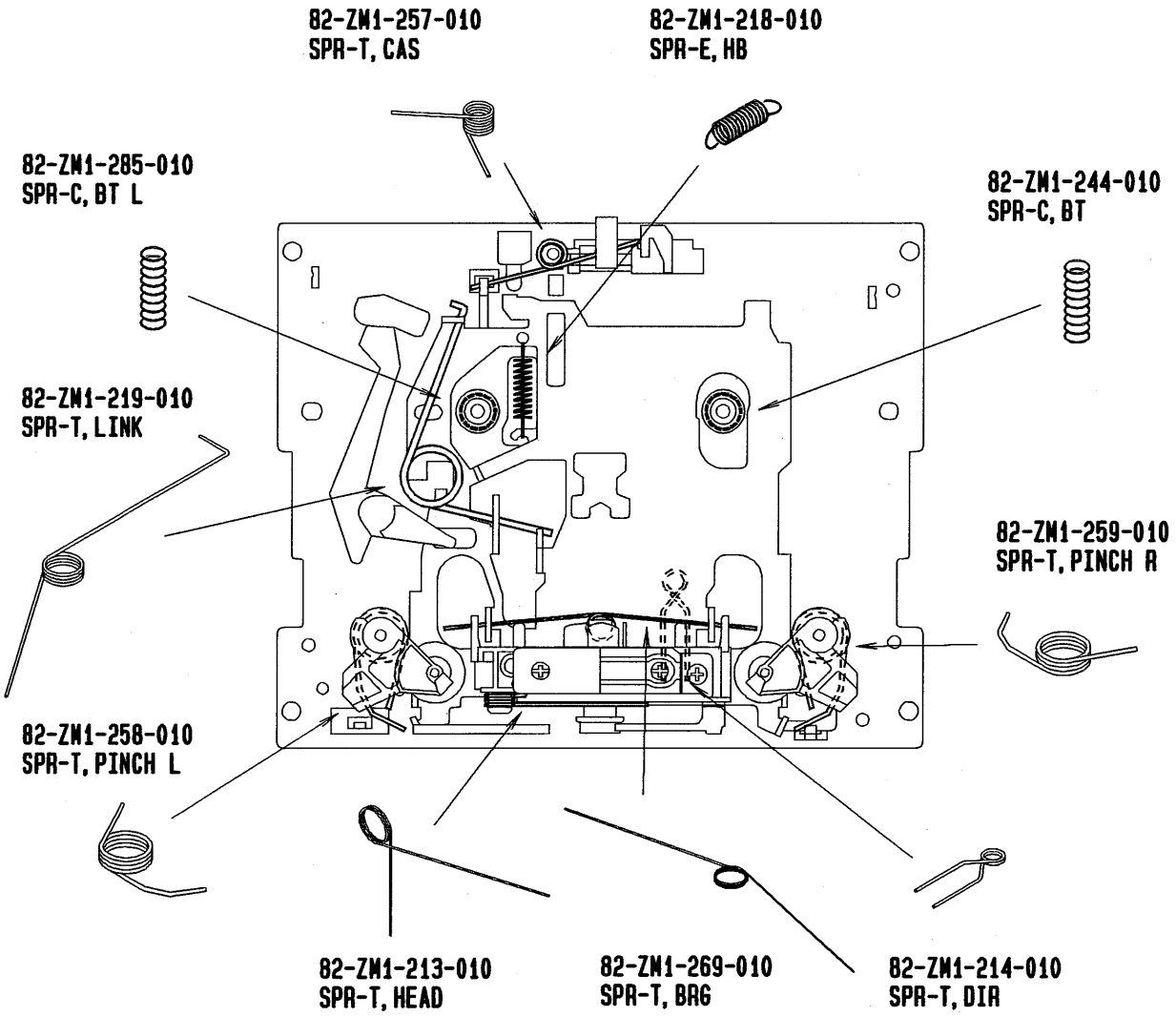
High tracking gain

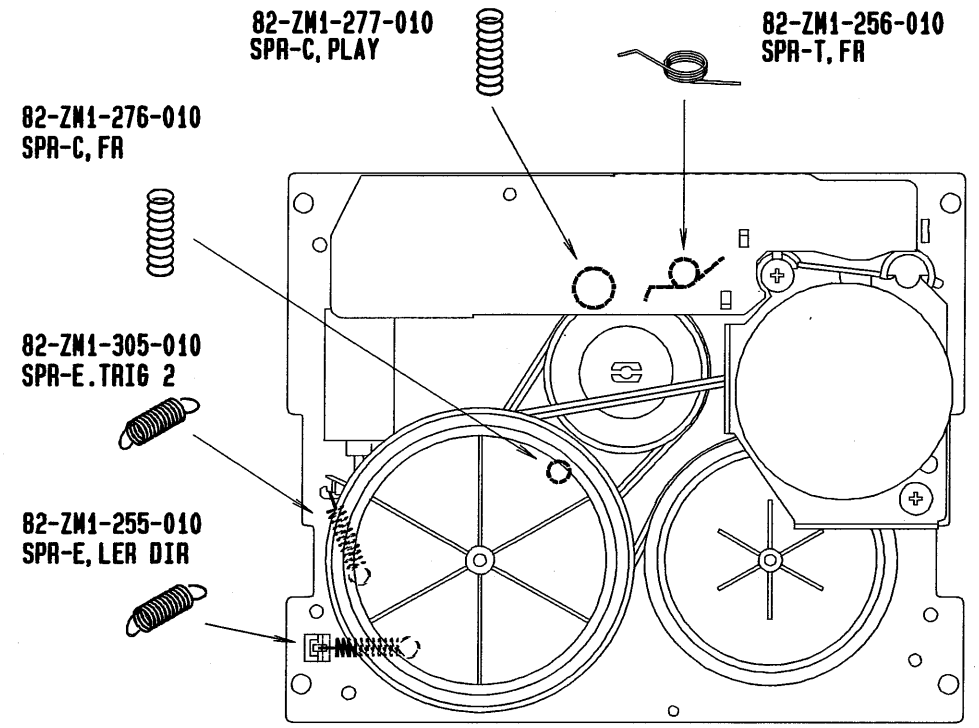
(The frequency of the fundamental wave is higher than in low gain.)



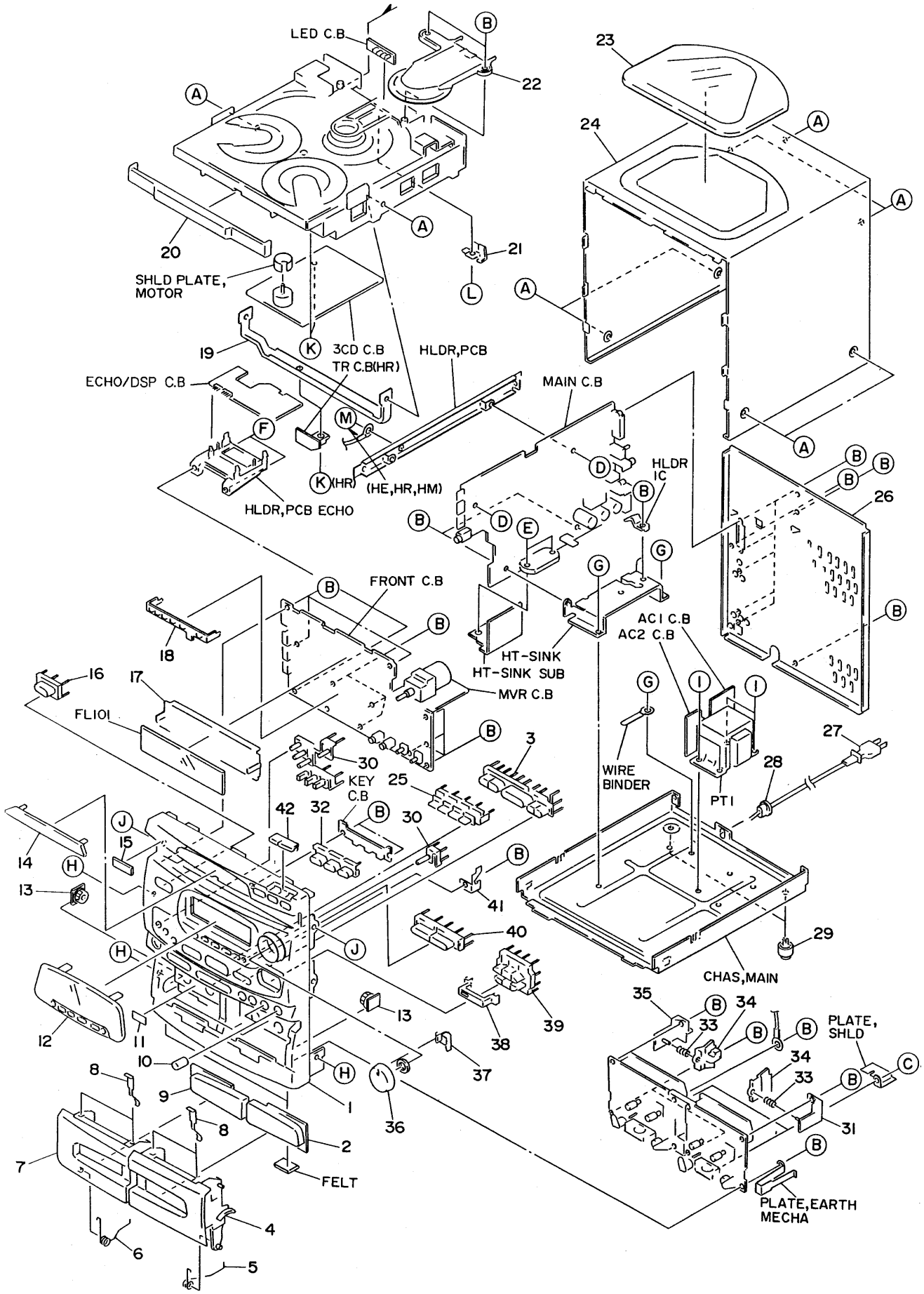
VOLT/DIV : 5mV
TIME/DIV : 1mS

SPRING APPLICATION POSITION





MECHANICAL EXPLODED VIEW 1/2

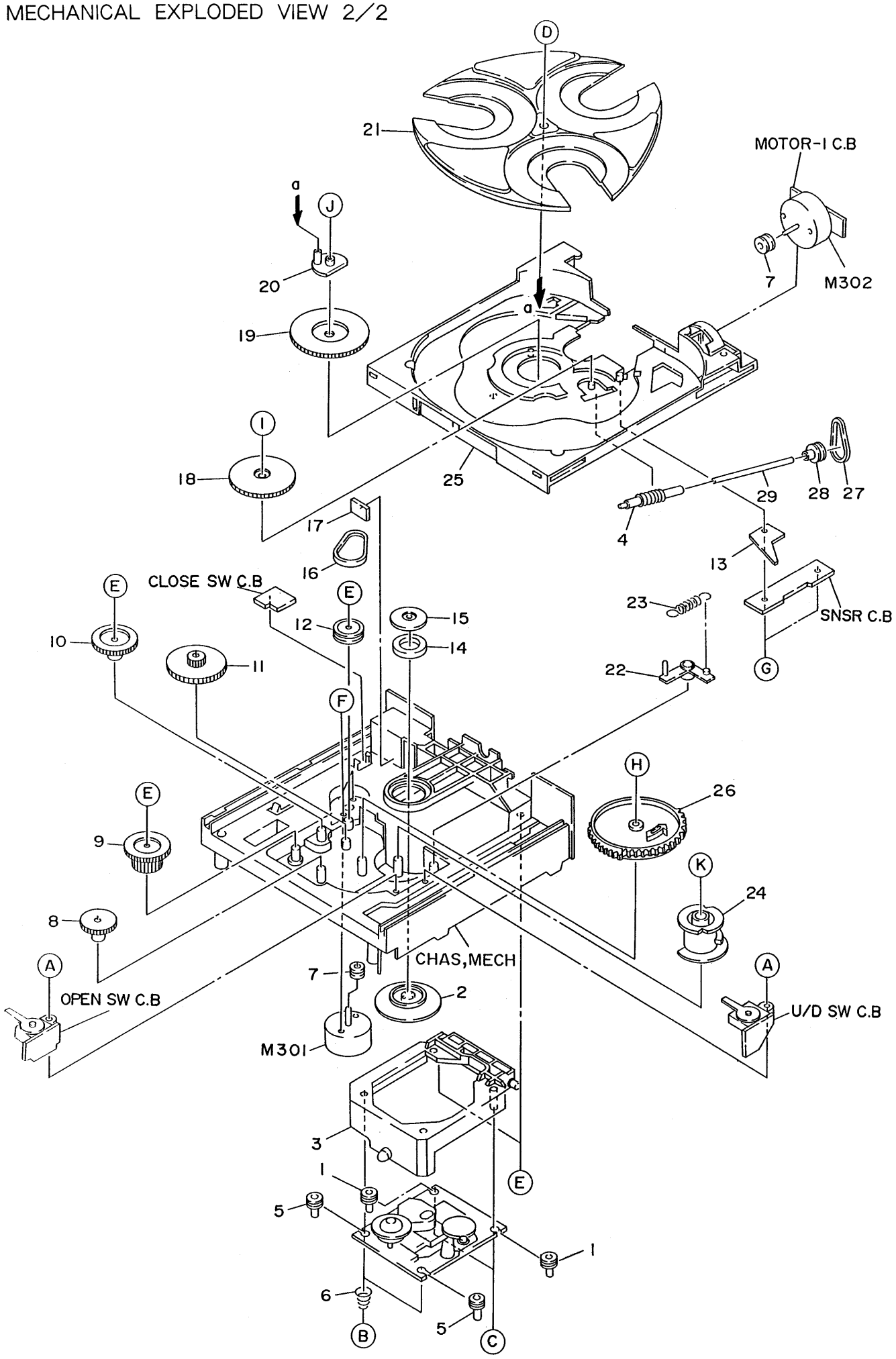


MECHANICAL PARTS LIST 1/2

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	ｶﾝﾘ NO.	DESCRIPTION
1	83-NFF-003-010		CAB, FR H〈LH〉
1	83-NFF-019-010		CAB, FR HE〈HE, HR〉
1	83-NFF-043-010		CAB, FR HM〈HM〉
2	83-NF5-007-010		WINDOW, CASS 2
3	83-NF5-012-110		KEY, PLAY
4	83-NF5-037-010		BOX, CASS 2 EX
5	82-NF5-219-010		SPR-T, EJECT 2 (SIN)
6	82-NF5-218-010		SPR-T, EJECT 1 (SIN)
7	83-NF5-036-010		BOX, CASS 1 EX
8	80-CD3-218-110		SPR-P CASS
9	83-NF5-006-010		WINDOW, CASS 1
10	83-NF5-020-010		KNOB, MIC
11	81-532-080-010		LBL, CASS-COMPT
12	83-NFF-020-010		WINDOW, DISPLAY
13	87-063-165-010		OIL-DMPR 150
14	83-NF5-022-010		WINDOW, CD
15	82-NE6-067-010		BADGE, AIWA 30N
16	83-NF5-013-010		KEY, POWER
17	83-NF5-202-010		GUIDE, FL
18	83-NF5-206-010		GUIDE, LED
19	82-NF5-217-110		HLDR, BOTTOM
20	83-NFF-009-010		PANEL, TRAY H
21	83-NF5-034-010		IND, CD 2
22	83-NF5-023-010		IND, CD
23	83-NF5-021-010		WINDOW, TOP
24	83-NF5-033-010		CAB, STEEL HR
25	83-NF5-014-110		KEY ASSY, FUN
26	83-NFF-004-010		PANEL, REAR HEJBNM〈HE〉
26	83-NFF-044-010		PANEL, REAR HMB〈HM〉
26	83-NFF-013-010		PANEL, REAR HRJBNM〈HR〉
26	83-NFF-051-010		PANEL, REAR LHBNM〈LH〉
27	87-034-749-010		AC CORD (H) W/PLUG〈LH〉
27	87-050-034-010		AC CORD ASSY, E〈HE, HR, HM〉
28	87-085-184-010		BUSHING, AC CORD D〈LH〉
28	87-085-185-010		BUSHING, AC CORD E〈HE, HR, HM〉
29	87-085-221-010		FOOT, H13.5
30	83-NF5-025-010		KEY, REC
31	82-NF5-226-010		HLDR, LOCK 1N
32	83-NF5-029-110		KEY, DISC
33	82-NF5-228-010		SPR-C, LOCK
34	82-NF5-229-010		PLATE, LOCK
35	82-NF5-227-010		HLDR, LOCK 2N
36	83-NF5-009-010		KNOB, VOL
37	83-NF5-010-010		IND, VOL
38	83-NF5-030-010		PANEL, GEQ
39	83-NF5-026-010		KEY, GEQ
40	83-NFF-007-110		KEY, ECHO
41	83-NF5-207-010		HLDR, FFC
42	83-NF5-024-010		KEY, OPEN
A	87-067-641-010		UTT2+3-8(W/O SLOT)BL
B	87-067-703-010		BVT2+3-10 (W/O SLOT)
C	87-571-032-410		VIT+2-3
D	87-067-633-010		BVT2+3-8 W CONVEX
E	87-067-698-010		BVT2+3-18(W/O, SLOT)
F	87-067-758-010		BVT2+3-12 W/O SLOT
G	87-067-688-010		BVTT+3-6
H	87-591-094-410		QIT+3-6
I	87-078-083-010		BVTT SEMS+4-8SW
J	87-721-097-410		QT2+3-12 GLD
K	87-067-579-010		BVT2+3-8W/O SLOT
L	87-741-094-410		UT2+3-6
M	87-741-094-410		UT2+3-6〈HE, HR, HM〉

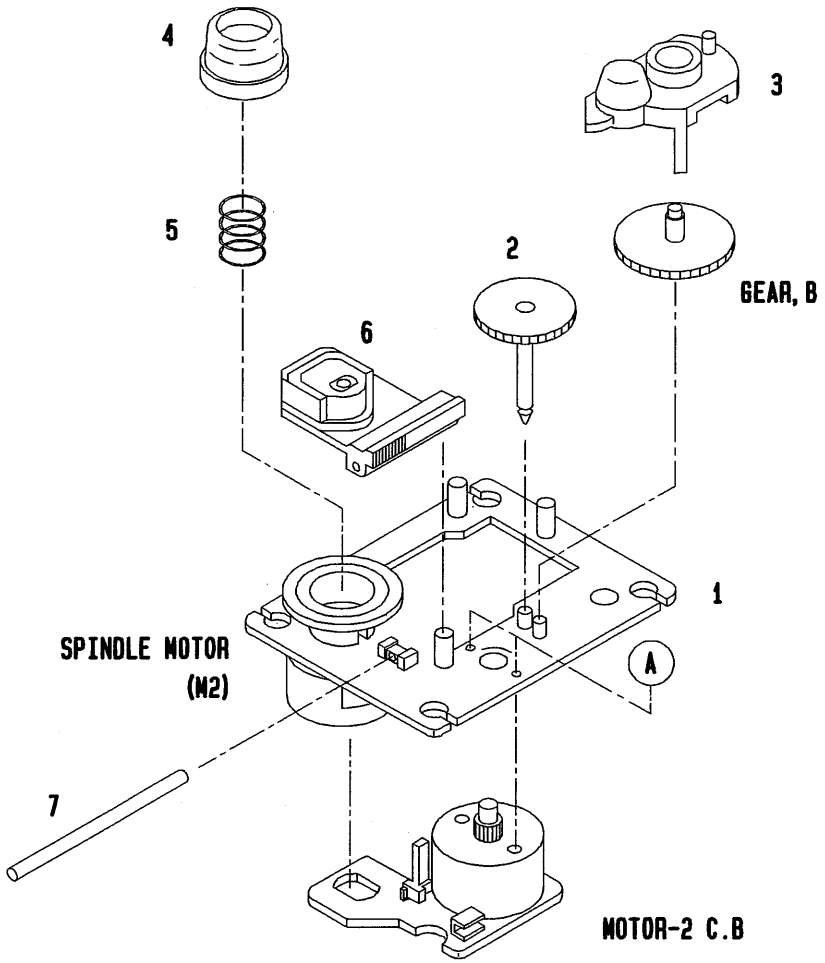
MECHANICAL EXPLODED VIEW 2/2



MECHANICAL PARTS LIST 2/2

REF. NO	PART NO.	カンリ NO.	DESCRIPTION
1	80-CD3-214-010		CUSH CD A
2	81-ZG1-277-010		HLDR, MAGNET N
3	81-ZG1-253-410		HLDR, MECH MK2
4	81-ZG1-276-110		WORM GEAR, TT NO2
5	81-ZG1-230-010		G-CUSH, MECH
6	81-ZG1-231-110		SPR-C, MECH
7	81-ZG1-212-010		PULLY, LOAD MO
8	81-ZG1-250-010		GEAR, TRAY RELAY MK2
9	81-ZG1-019-010		GEAR, TRAY B YEL
10	81-ZG1-018-010		GEAR, TRAY A YEL
11	81-ZG1-017-010		GEAR, RELAY RED
12	81-ZG1-014-010		PULLY, RELAY YEL
13	81-ZG1-240-010		SPR-P, WORM
14	87-036-326-010		MAGNET, CLAMPER 93
15	81-ZG1-285-010		PLATE, MAGNET N
16	81-ZG1-232-010		BELT, TRAY
17	81-ZG1-238-110		CUSH, TRAY IN
18	81-ZG1-222-010		WORM WHEEL, TT
19	81-ZG1-202-010		GEAR MAIN
20	81-ZG1-252-010		LEVER, TT MK2
21	81-ZG1-008-210		TURNTABLE, NO2〈LH, HE, HR〉
21	81-ZG1-010-210		TURNTABLE, NO3〈HM〉
22	81-ZG1-020-010		PLATE, CAM BGE
23	81-ZG1-262-010		SPR-E, CAM S
24	81-ZG1-016-010		GEAR, MECH CAM BGE
25	81-ZG1-024-010		TRAY, NO3 3NF-5
26	81-ZG1-015-010		GEAR, TRAY CAM BLU
27	81-ZG1-233-110		BELT, TT
28	81-ZG1-236-010		PULLY, TT MO
29	81-ZG1-260-010		SHAFT, WORM S
A	81-653-215-010		SPECIAL SCREW VT2
B	81-ZG1-254-010		S-SCREW, MECH HLDR
C	81-ZG1-271-010		S-SCREW, MECH REAR
D	81-ZG1-239-010		S-SCREW, TT
E	87-067-945-110		VFT2+3-12(F10)
F	87-251-071-410		U+2.6-4
G	87-067-579-010		BVT2+3-8W/O SLOT
H	81-ZG1-264-010		S-SCREW, CAM
I	87-761-095-410		VFT2+3-8
J	87-078-029-010		VFT2+3-13(F8)
K	87-078-061-010		VFT2+3-20DIA10, GLD

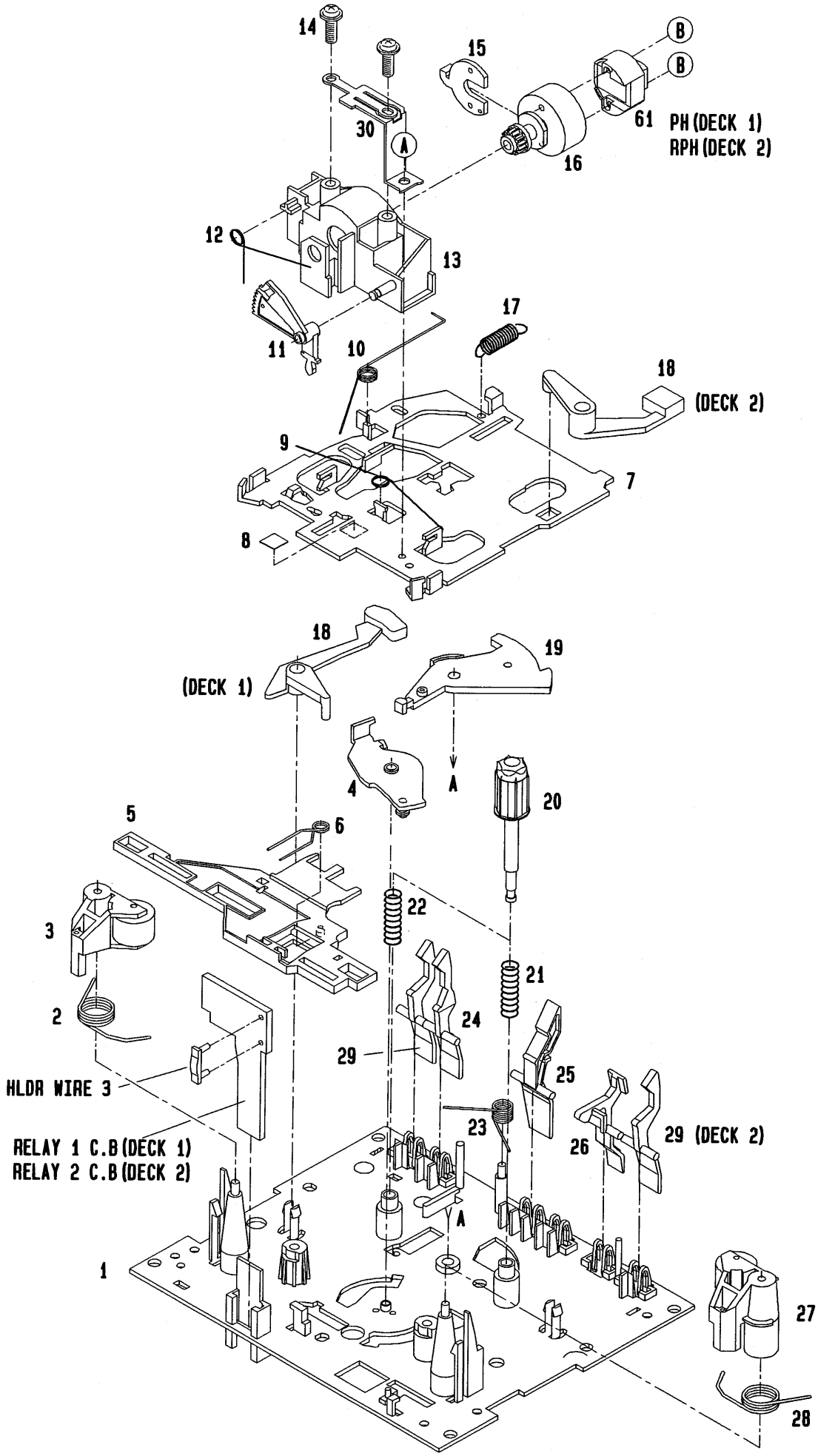
CD MECHANISM EXPLODED VIEW 1／1

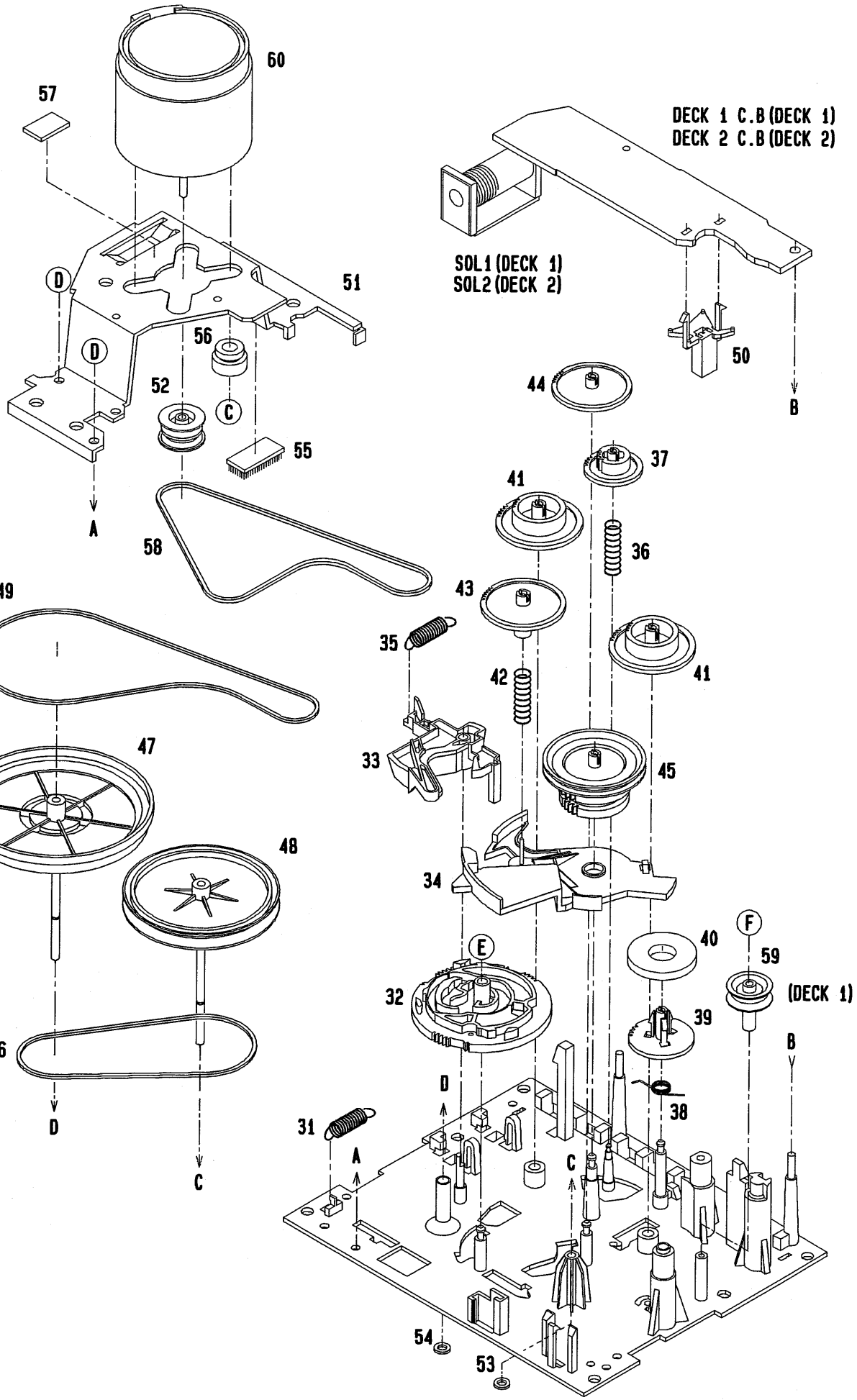


CD MECHANISM PARTS LIST 1／1

REF. NO	PART NO.	カンリ NO.	DESCRIPTION
1	9X-262-513-310		T.T CHASS ASSY W/MOTOR
2	92-625-188-020		GEAR(A)
3	92-625-544-010		COVER
4	92-625-187-010		RING CENTER
5	92-625-191-010		SPRING COMPRESSION
6	98-848-127-110		OPTICAL PICK UP KSS-210A
7	94-917-565-010		SHAFT SLED
A	87-261-032-210		V+2-3

TAPE MECHANISM EXPLODED VIEW 1/1




60
57
51
56
52
55
58
DECK 1 C.B (DECK 1)
DECK 2 C.B (DECK 2)
SOL1 (DECK 1)
SOL2 (DECK 2)
50
44
37
41
36
43
35
42
41
33
45
34
49
47
48
46
40
59
(DECK 1)
32
39
38
31
54
53
A
B
C
D
E
F

TAPE MECHANISM PARTS LIST 1/1

REF. NO	PART NO.	カンリ NO.	DESCRIPTION
1	82-ZM3-214-110		CHAS ASSY, P (DECK 1)
1	82-ZM1-299-010		CHAS ASSY, R (DECK 2)
2	82-ZM1-258-010		SPR-T, PINCH L
3	82-ZM1-248-110		LVR ASSY, PINCH L
4	82-ZM1-295-210		PLATE ASSY, LINK
5	82-ZM1-266-010		LVR, DIR
6	82-ZM1-214-010		SPR-T, DIR
7	82-ZM1-206-210		CHAS, HEAD
8	87-078-014-010		SH, 5-5-0.05
9	82-ZM1-269-010		SPR-T, BRG
10	82-ZM1-219-010		SPR-T, LINK
11	82-ZM1-210-010		GEAR, H T
12	82-ZM1-213-010		SPR-T, HEAD
13	82-ZM1-207-010		GUIDE, TAPE
14	82-ZM1-283-210		S-SCREW, AZIMUTH
15	82-ZM1-209-010		PLATE, HEAD
16	82-ZM1-208-010		HLDR, HEAD
17	82-ZM1-218-010		SPR-E, HB
18	82-ZM1-263-110		LVR, EJECT L (DECK 1)
18	82-ZM1-264-010		LVR, EJECT R (DECK 2)
19	82-ZM1-222-010		LVR, PLAY
20	82-ZM1-217-110		REEL TABLE
21	82-ZM1-244-110		SPR-C, BT
22	82-ZM1-285-110		SPR-C, BT L
23	82-ZM1-257-010		SPR-T, CAS
24	82-ZM1-241-110		LVR, MC
25	82-ZM1-242-010		LVR, CAS
26	82-ZM1-243-010		LVR, STOP
27	82-ZM1-253-110		LVR ASSY, PINCH R
28	82-ZM1-259-010		SPR-T, PINCH R
29	82-ZM1-240-110		LVR, REC (DECK 2)
30	82-ZM1-298-010		SPR-P, EARTH
31	82-ZM1-255-110		SPR-E, LVR DIR
32	82-ZM1-221-110		GEAR, CAM
33	82-ZM1-227-110		LVR, TRIG
34	82-ZM1-224-110		LVR, FR
35	82-ZM1-305-010		SPR-E, TRIG 2
36	82-ZM1-277-010		SPR-C, PLAY
37	82-ZM1-223-010		GEAR, PLAY
38	82-ZM1-256-110		SPR-T, FR
39	82-ZM1-220-210		GEAR, IDLER
40	80-ZM6-217-010		RING MAGNET 2
41	82-ZM1-216-210		GEAR, REEL
42	82-ZM1-276-010		SPR-C, FR
43	82-ZM1-225-010		GEAR, FR
44	82-ZM1-226-010		GEAR, REW
45	82-ZM1-228-210		SLIP DISK ASSY
46	82-ZM1-261-110		BELT, FR
47	82-ZM1-237-210		FLY-WHL ASSY, R (DECK 2)
47	82-ZM3-209-110		FLY-WHL ASSY, R2 (DECK 1)
48	82-ZM1-234-110		FLY-WHL ASSY, L (DECK 2)
48	82-ZM3-207-210		FLY-WHL ASSY, L2 (DECK 1)
49	82-ZM3-206-010		BELT, R
50	82-ZM1-245-210		HLDR, IC
51	82-ZM3-201-010		HLDR, MC
52	82-ZM3-202-010		PULLEY, MOT 2M
53	82-ZM1-288-010		SH, 1.63-3.2-0.5 SLT
54	80-ZM6-243-010		SH, 1.75-3.6-0.5 SLT
55	80-ZM6-230-010		SH, BELT
56	86-575-242-010		CUSH-G, DIA3.7-9-3.2
57	86-575-361-010		CUSH-G, 6-8-0.8
58	82-ZM3-205-010		BELT, L
59	82-ZM3-204-010		PULLEY, COUPLER (DECK 1)
60	87-045-347-010		MOT, SHU2L 70(M1)
61	87-046-355-010		HEAD, PH HADKH2529B(PH)
61	87-046-356-010		HEAD, RPH HADKH5581B(RPH)
A	87-585-036-410		UIT+2-8
B	80-ZM6-207-010		V+1.6-7
C	82-ZM1-309-010		S-SCRW, MOTOR
D	87-067-178-010		VTT+2.6-3
E	87-067-932-010		PW, 2.15-6.8-0.5 SLT
F	87-067-972-010		PW, 1.05-3-0.25 SLT

■ SPEAKER LIST

DESCRIPTIONで判断できない物は “REFERENCE NAME LIST” を参照してください。
If can't understand for Description please kindly refer to “REFERENCE NAME LIST”.

REF. NO	PART NO.	ｶﾝﾘ NO.	DESCRIPTION
=== SX-FN520 ===			
1	83-NS5-001-010		PANEL FR
2	83-NS5-013-010		ADAPTOR ASSY
3	83-NS5-005-010		SPEAKER GRILL
4	83-NSF-602-010		SPEAKER WOOFER
5	83-NS5-604-010		SPEAKER MID
6	83-NS5-606-010		SPEAKER
7	83-NS5-021-010		GRILL FRAME ASSY
8	83-NS5-611-010		SPEAKER CORD Y/B
9	83-NS5-612-010		TERMINAL Y/B
10	83-NS5-613-010		SPEAKER CORD ASSY

■ ACCESSORIES／PACKAGE LIST

DESCRIPTIONで判断できない物は “REFERENCE NAME LIST” を参照してください。
If can't understand for Description please kindly refer to “REFERENCE NAME LIST”.

REF. NO	PART NO.	ｶﾝﾘ NO.	DESCRIPTION
1	83-NFF-903-010		IB, H(S)〈HE, HR, LH〉
1	83-NF5-913-010		IB, HM(J)〈HM〉
2	83-NFF-605-010		RC, RC-TN520EX
3	87-006-225-010		AM LOOP ANT NC2〈LH〉
3	87-006-240-010		AM LOOP ANT CON(KO)〈HE, HM, HR〉
4	87-009-724-010		PLUG, ADPTR IR39〈LH〉
4	87-009-725-010		PLUG, ADPTR IR40〈HE, HM, HR〉
5	87-043-095-010		5M(SW)WIRE-ANT(S)〈HE, HM, HR〉
6	87-043-115-010		ANT, FEEDER FM

REFERENCE NAME LIST

ELECTRICAL SECTION

DESCRIPTION	REFERENCE NAME
ANT	ANTENNAS
C-	CHIP
C-CAP	CAP, CHIP
C-CAP TN	CAP, CHIP TANTALUM
C-COIL	COIL, CHIP
C-DI	DIODE, CHIP
C-DIODE	DIODE, CHIP
C-FET	FET, CHIP
C-FOTR	FILTER, CHIP
C-JACK	JACK, CHIP
C-LED	LED, CHIP
C-RES	RES, CHIP
C-SFR	SFR, CHIP
C-SLIDE SW	SLIDE SWITCH, CHIP
C-SW	SWITCH, CHIP
C-TR	TRANSISTOR, CHIP
C-VR	VOLUME, CHIP
C-ZENER	ZENER, CHIP
CAP, CER	CAP, CERA-SOL
CAP, E	CAP, ELECT
CAP, M/F	CAP, FILM
CAP, TC	CAP, CERA-SOL
CAP, TC-U	CAP, CERA-SOL SS
CAP, TN	CAP, TANTALUM
CERA FIL	FILTER, CERAMIC
CF	FILTER, CERAMIC
DL	DELAY LINE
E/CAP	CAP, ELECT
FILT	FILTER
FLTR	FILTER
FUSE RES	RES, FUSE
MOT	MOTOR
P-DIODE	PHOTO DIODE
P-SNSR	PHOTO SENSER
P-TR	PHOTO TRANSISTOR
POLY VARI	VARIABLE CAPACITOR
PPCAP	CAP, PP
PT	POWER TRANSFORMER
PTR, RES	PTR, MELF
RC	REMOTE CONTROLLER
RES NF	RES, NON-FLAMMABLE
RESO	RESONATOR
SHLD	SHIELD
SOL	SOLENOID
SPKR	SPEAKER
SW, LVR	SWITCH, LEVER
SW, RTRY	SWITCH, ROTARY
SW, SL	SWITCH, SLIDE
TC CAP	CAP, CERA-SOL
THMS	THERMISTOR
TR	TRANSISTOR
TRIMMER	CAP, TRIMMER
TUN-CAP	VARIABLE CAPACITOR
VIB, CER	RESONATOR, CERAMIC
VIB, XTAL	RESONATOR, CRYSTAL
VR	VOLUME
ZENER	DIODE, ZENER
ｻｰｼﾞｻﾌﾟﾚｯｻ	SERGESUPPRESSOR
ｾﾗｺﾝ	CAP, CERA

サービス技術ニュース	
番号	連絡内容
G－　－	
G－　－	
G－　－	

MECHANICAL SECTION

DESCRIPTION	REFERENCE NAME
ADHESHIVE	SHEET ADHESHIVE
AZ	AZIMUTH
BAR-ANT	BAR-ANTENNA
BAT	BATTERY
BATT	BATTERY
BRG	BEARING
BTN	BUTTON
CAB	CABINET
CASS	CASSETTE
CHAS	CHASSIS
CLR	COLLAR
CONT	CONTROL
CRSR	CURSOR
CU	CUSHION
CUSH	CUSHION
DIR	DIRECTION
DUBB	DUBBING
FL	FRONT LOADING
FLY-WHL	FLYWHEEL
FR	FRONT
FUN	FUNCTION
G-CU	G-CUSHION
HDL	HANDOL
HIMERON	CLOTH
HINGE, BAT	HINGE, BATTERY
HLDR	HOLDER
HT-SINK	HEAT SINK
IB	INSTRUCTION BOOKLET
IDLE	IDLER
IND, L-R	INDICATOR, L-R
KEY, CONT	KEY, CONTROL
KEY, PRGM	KEY, PROGRAM
KNOB, SL	KNOB, SLIDE
LBL	LABEL
LID, BATT	LID, BATTERY
LID, CASS	LID, CASSETTE
LVR	LEVER
P-SP	P-SPRING
PANEL, CONT	PANEL, CONTORL
PANEL, FR	PANEL, FRONT
PRGM	PROGRAM
PULLY, LOAD MO	PULLY, LOADING MOTOR
RBN	RIBBON
S-	SPECIAL
SEG	SEGMENT
SH	SHEET
SHLD-SH	SHIELD-SHEET
SL	SLIDE
SP	SPRING
SP-SCREW	SPECIAL-SCREW
SPACER, BAT	SPACER, BATTERY
SPR	SPRING
SPR-P	P-SPRING
SPR-PC-PUSH	P-SPRING, C-PUSH
T-SP	T-SPRING
TERM	TERMINAL
TRIG	TRIGGER
TUN	TUNING
VOL	VOLUME
W	WASHER
WHL	WHEEL
WORM-WHL	WORM-WHEEL
ｼｸｱｰﾑ	ARM, SHAFT
ｼｸｶﾞｲﾄﾞ	GUIDE, SHAFT
ｽﾄﾗｯﾌﾟ	STRAP
ﾄｸﾅﾍﾞ	S-SCRW
ﾋﾝｼﾞ	HINGE
ﾋﾝｼﾞﾋﾞｽ	S-SCRW
ﾋﾞｽｾﾚｰﾄ	SCRW, SERRART

アイワ株式会社
AIWA CO.,LTD.

931196, 750038
Tokyo Japan

〒110 東京都台東区池之端1－2－11　☎03（3827）3111（代表）

Printed in Singapore